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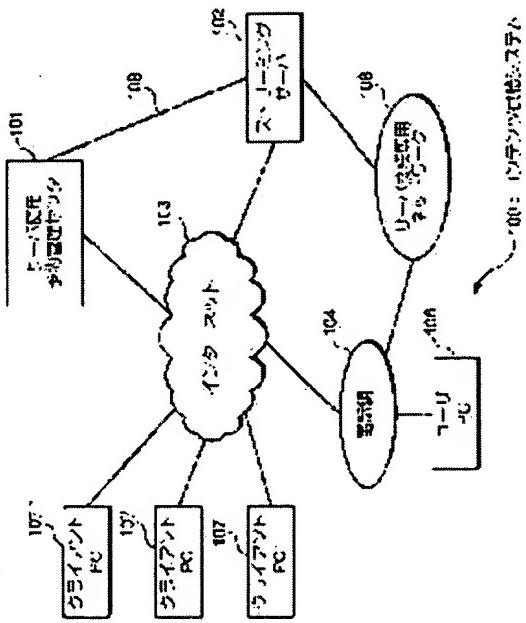
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(54) CONTENTS DELIVERY RESERVATION METHOD, CONTENTS DELIVERY METHOD, RESERVATION CONTROL DEVICE, AND PROGRAM STORAGE MEDIUM

(57) Abstract:

PROBLEM TO BE SOLVED: To enable a distributor to take the number limit of the subscribers or rental fee of contents into consideration when reservations for the live delivery of contents are made.

SOLUTION: In a contents distribution system 100, an operating user PC 106 makes reservations to a server use reservation control center 101 for a time zone or the like through the intermediary of an internet 103 for using a streaming server 102 for live distribution. At this point, the streaming server 102 is equipped with a plurality of channels for distribution, and distribution can be made on the channels in the same time zone. The number limit of subscribers and rental fee of contents are previously set for each channel, and users are capable of designating contents to be distributed on which channel, taking these settings into consideration when reservation is made.



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CLAIMS

[Claim(s)]

[Claim 1] The contents transmitted through a network from a distribution person terminal unit are received. In order to perform live distribution of contents using the distribution server which can perform in parallel processing which carries out stream distribution of said contents through a network to a client terminal unit by two or more lines Said distribution person terminal unit is the approach of performing activity reservation of said distribution server to the reservation management equipment which manages the activity reservation status of said distribution server through a network. Reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice which shows [of said distribution server / said] of which system of the systems he wishes two or more activities, and said distribution server The reservation demand step transmitted to said reservation management equipment through a network from said distribution person terminal unit, When activity reservation of said distribution server in said system of choice contained in said reservation demand information and said time amount wishing an activity is permitted and the reservation concerned is established The reservation approach of the contents distribution characterized by providing the accounting step which performs accounting about said reservation based on the toll of said distribution server beforehand set as said system of choice.

[Claim 2] When an access demand of reservation status is made from said distribution person terminal unit to said reservation management equipment through a network The reservation status information containing the toll beforehand set as said distribution person terminal unit for said every system of said distribution server through the network from said reservation management equipment is transmitted. The reservation approach of the contents distribution according to claim 1 characterized by providing further the reservation situation display step which displays the reservation status information concerned in said distribution person terminal unit.

[Claim 3] The contents transmitted through a network from a distribution person terminal unit are received. Activity reservation of the distribution server which can perform in parallel processing which carries out stream distribution of said contents through a network to a client terminal unit by two or more lines is performed to reservation management equipment. It is the approach of transmitting said contents to said distribution server from said distribution person terminal unit based on the reservation concerned, and performing contents distribution. Reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice which shows [of said distribution server / said] of which system of the systems he wishes two or more activities, and said distribution server The reservation demand step transmitted to said reservation management equipment through a network from said distribution person terminal unit, When activity reservation of said distribution server in said system of choice contained in said reservation demand information and said time amount wishing an activity is permitted, in order to perform contents distribution based on the permitted reservation concerned The contents transmitting step which transmits contents to said distribution server through a network from said distribution person terminal unit, When the distribution demand of contents is made from said client terminal unit to said distribution server through a network The distinction step which distinguishes whether the distribution demand of the client terminal unit concerned is permitted based on the number of riding capacity of the distribution place beforehand set as said system of choice, The contents distribution approach characterized by providing the distribution step which carries out stream distribution of the contents transmitted from said distribution person terminal unit through said distribution server to a network at said client terminal unit when permitting the distribution demand of said client terminal unit.

[Claim 4] When an access demand of reservation status is made from said distribution person terminal unit to said reservation management equipment through a network The reservation status information containing the number of riding capacity of the distribution place beforehand set as said distribution person terminal unit for said every system of said distribution server through the network from said reservation management equipment is transmitted. The contents distribution approach according to

claim 3 characterized by providing further the reservation situation display step which displays the reservation status information concerned in said distribution person terminal unit.

[Claim 5] It is reservation management equipment which manages reservation of live distribution of the contents which used the distribution server which can perform in parallel stream message distribution processing of said contents which minded the network to the client terminal unit by two or more lines. A network is minded from the distribution person terminal unit which wishes live distribution of contents. A receiving means to receive reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice which shows [of said distribution server transmitted / said] of which system of the systems he wishes two or more activities, and said distribution server, When activity reservation of said distribution server in said system of choice contained in said reservation demand information and said time amount wishing an activity is permitted and the reservation concerned is established Reservation management equipment characterized by providing an accounting means to perform accounting about said reservation, based on the toll of said distribution server beforehand set as said system of choice.

[Claim 6] Reservation management equipment according to claim 5 characterized by to provide further a reservation-status transmitting means transmit the reservation status information containing the toll beforehand set as said distribution person terminal unit for said every system of said distribution server through the network from said reservation management equipment when an access demand of reservation status is made from said distribution person terminal unit to said reservation management equipment through a network.

[Claim 7] It is reservation management equipment which manages reservation of live distribution of the contents which used the distribution server which can perform in parallel stream message distribution processing of said contents which minded the network to the client terminal unit by two or more lines. A network is minded from the distribution person terminal unit which wishes live distribution of contents. A receiving means to receive reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice which shows [of said distribution server transmitted / said] of which system of the systems he wishes two or more activities, and said distribution server, When the distribution demand of contents is made from said client terminal unit to said distribution server through a network Reservation management equipment characterized by providing a distinction means to distinguish whether the distribution demand of the client terminal unit concerned is permitted based on the number of riding capacity of the distribution place beforehand set as said system of choice.

[Claim 8] The reservation management equipment according to claim 7 characterized by to provide further a reservation-status transmitting means transmit the reservation status information containing the number of riding capacity of the distribution place beforehand set as said distribution person terminal unit for every system of said of said distribution server through the network from said reservation management equipment when an access demand of reservation status is made from said distribution person terminal unit to said reservation management equipment through a network.

[Claim 9] It is the program which the reservation management equipment which manages reservation of live distribution of the contents which used the distribution server which can perform in parallel stream message distribution processing of said contents which minded the network to the client terminal unit by two or more lines is made to perform. A network is minded from the distribution person terminal unit which wishes live distribution of contents. The reception which receives reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice which shows [of said distribution server transmitted / said] of which system of the systems he wishes two or more activities, and said distribution server, When activity reservation of said distribution server in said system of choice contained in said reservation demand information and said time amount wishing an activity is permitted and the reservation concerned is established The program storing medium which memorized the program characterized by providing the accounting which performs accounting about said reservation based on the toll of said distribution server beforehand set as said system of choice.

[Claim 10] It is the program which the reservation management equipment which manages reservation of live distribution of the contents which used the distribution server which can perform in parallel stream message distribution processing of said contents which minded the network to the client terminal unit by two or more lines is made to perform. A network is minded from the distribution person terminal unit which wishes live distribution of contents. The reception which receives reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice which shows [of said distribution server transmitted / said] of which system of the systems he wishes two or more activities, and said distribution server, When the distribution demand of contents is made from said client terminal unit to said distribution server through a network The program storing medium which memorized the program characterized by providing the distinction processing which distinguishes whether the distribution demand of the client terminal unit concerned is permitted based on the number of riding capacity of the distribution place beforehand set as said system of choice.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] In this invention, the program which the reservation approach of the contents distribution which reserves contents distribution which performs live distribution of contents using the distribution server which performs stream distribution of contents to a client, the contents distribution approach, the reservation management equipment that manages reservation of the contents distribution concerned, and the reservation management equipment concerned are made to perform is related to the memorized program storing medium.

[0002]

[Description of the Prior Art] When offering conventionally the contents which the individual created through the Internet in a computer network system, generally opening a homepage individually is performed.

[0003] Thus, when you open a homepage individually, a user receives a homepage creation program through a personal computer (henceforth PC), makes the homepage which carried out the hyperlink to two or more contents based on the homepage creation program concerned, and accumulates this in the server of an Internet Service Provider (henceforth ISP).

[0004] And ISP is made as [offer / the linked contents / continuously], when a homepage is offered from a server to the client accessed through the Internet and the support on the homepage is clicked.

[0005] In recent years, many dynamic images, much voice, etc. are made as contents with which a client is provided through the Internet as mentioned above besides the still picture. In offering contents, such as such a dynamic image, it uploads beforehand the dynamic-image file and voice file which the user created in the predetermined storage region of the streaming server of ISP. And when a demand suits from a client, the streaming server of ISP carries out stream distribution of the file according to a demand through the Internet to a client.

[0006] Moreover, as the technique of carrying out stream distribution for contents, such as a dynamic image, to a client through the Internet, the dynamic-image file is beforehand uploaded to the streaming server, and distribution by the technique of "live distribution" is performed besides "distribution on demand" distributed according to a demand from a client as mentioned above. In live distribution, by the contents maker, the dynamic-image data created by creation, for example, the photography by the digital camera, will be encoded on real time, and this will be transmitted to a streaming server through the Internet etc. And a client with a demand can be provided with a streaming server on real time by carrying out streaming playback, recording on the storage region of dedication of the dynamic-image data supplied on real time from a contents maker in this way.

[0007]

[Problem(s) to be Solved by the Invention] By the way, if many people have to view and listen to the contents to distribute as a contents distribution person in case live distribution which was mentioned above is performed, I may think that I do not need to have so many people view and listen. Moreover, even if the costs for live distribution increased by some contents to distribute, many people had to view and listen, and even if viewed and listened by only few men, it may have been said that he wanted to control the costs for live distribution. That is, the maximum manpower, costs, etc. to which it can be viewed and listened and which a contents distribution person wishes change with the contents to distribute, and it can be said that the service which can perform live distribution in consideration of these is significant to a distribution person.

[0008] In case it reserves for this invention being made in consideration of the above-mentioned situation, and performing live distribution of contents The reservation approach of contents distribution which can perform reservation which took into consideration the number of riding capacity or toll of a distribution place of contents by the distribution person side, It aims at offering the program storing

medium which memorized the program which the reservation management equipment which manages distribution reservation of contents, and reservation management equipment are made to perform, and the contents distribution approach which can perform live distribution of contents based on the reservation concerned.

[0009]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, it sets to this invention. The contents transmitted through a network from a distribution person terminal unit are received. In order to perform live distribution of contents using the distribution server which can perform in parallel processing which carries out stream distribution of said contents through a network to a client terminal unit by two or more lines The following procedures are completed in case a distribution person terminal unit performs activity reservation of a distribution server to the reservation management equipment which manages the activity reservation status of a distribution server through a network. First, reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice and distribution server which show [of a distribution server / said] of which system of the systems he wishes two or more activities is transmitted to reservation management equipment through a network from a distribution person terminal unit. And when activity reservation of the distribution server in the system of choice and the time amount wishing an activity which are included in reservation demand information is permitted and the reservation concerned is established, accounting about reservation is performed based on the toll of the distribution server beforehand set as the system of choice.

[0010] Thus, when performing contents live distribution which used the distribution server, contents distribution can be ensured by adopting a reservation system in the time zone reserved by the distribution person of contents. Moreover, in case it reserves, it can specify of which system he wishes an activity among two or more lines of a distribution server by including the system of choice which shows the activity [two or more any] of a distribution server he wishes in reservation demand information, and transmitting to reservation management equipment from a distribution person terminal unit. And when reservation in alignment with this hope is established, accounting based on the toll beforehand set as the wished system concerned will be performed. Therefore, a distribution person can choose a system in consideration of the costs for contents distribution etc. according to the toll set up beforehand, and can wish to use the system concerned in the case of reservation.

[0011] Moreover, in case the contents transmitted through a network from a distribution person terminal unit receive, activity reservation of the distribution server which can perform in parallel processing which carries out stream distribution of the contents through a network to a client terminal unit by two or more lines performs to reservation management equipment, contents transmit from a distribution person terminal unit to a distribution server based on the reservation concerned and contents distribution carries out, the following procedures step on in another mode of this invention. First, reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice and distribution server which show of which system of two or more lines of a distribution server he wishes an activity is transmitted to reservation management equipment through a network from a distribution person terminal unit. Then, when activity reservation of the distribution server in the system of choice and the time amount wishing an activity which are included in reservation demand information is permitted, in order to perform contents distribution based on the permitted reservation concerned, contents are transmitted to a distribution server through a network from a distribution person terminal unit. And when the distribution demand of contents is made from a client terminal unit to a distribution server through a network, it distinguishes whether based on the number of riding capacity of the distribution place beforehand set as the system of choice, the distribution demand of the client terminal unit concerned is permitted. Next, when permitting the distribution demand of a client terminal unit, stream distribution of the contents transmitted from said distribution person terminal unit is carried out through a network at said client terminal unit from said distribution server.

[0012] Thus, when performing contents live distribution which used the distribution server, contents

distribution can be ensured by adopting a reservation system in the time zone reserved by the distribution person of contents. Moreover, in case it reserves, it can specify of which system he wishes an activity among two or more lines of a distribution server by including the system of choice which shows the activity [two or more any] of a distribution server he wishes in reservation demand information, and transmitting to reservation management equipment from a distribution person terminal unit. And establishment of reservation in alignment with this hope distinguishes whether based on the number of riding capacity of the distribution place beforehand set as the wished system concerned, it should distribute to a client terminal unit with a distribution demand. Therefore, a distribution person can choose a system according to the number of riding capacity set up beforehand in consideration of hope what manpower to want to view and listen to the contents to distribute, and can wish to use the system concerned in the case of reservation.

[0013]

[Embodiment of the Invention] Hereafter, the operation gestalt of this invention is explained with reference to a drawing.

A. outline **** of the whole configuration A-1. system of a contents distribution system -- drawing 1 is the block diagram showing the whole contents distribution system 100 configuration which offers the personal casting (Personal Casting) service using the reservation approach of the contents distribution concerning 1 operation gestalt of this invention first.

[0014] As shown in drawing 1, this contents distribution system 100 is equipped with the server activity reservation management center 101 connected to the Internet 103 with the user (distribution person terminal unit) PC 106 connected through the Internet Service Provider and telephone network 104 which are not illustrated to the Internet 103 and the streaming server (processing server) 102, and the client PC 107 of plurality (a graphic display is three) connected to the Internet 103 through a telephone network (graphic display abbreviation) or a dedicated line (graphic display abbreviation). Here, it connects with the network 108 only for server connection, and in case the streaming server 102 transmits data to the streaming server 102 from a user PC 106 at the time of the live distribution mentioned later, a user PC 106 makes PPP (Point-to-Point Protocol) connection of it through a telephone network 104 at the access port of the network 108 only for server connection. As a means which makes PPP connection, an analog public network, ISDN (Integrated Services Digital Network) and PHS (PIAFS (Personal Handyphone System Internet Access Forum Standard)), a cellular phone, a dialup router course, etc. are used. By this, the communication path between a user PC 106 and the streaming server 102 will be established, and contents data will be transmitted using this communication path. Moreover, the dedicated line 109 is laid also for between the streaming server 102 and the server activity reservation management centers 101, and transfer of data is performed among both through the dedicated line 109 concerned in the cases, such as authentication processing to which it mentions later.

[0015] In this contents distribution system 100, while a user's PC 106 user transmits the contents data (for example, image data which photoed the music live) currently photoed with the digital camera etc. to the streaming server 102 in the time zone (for example, 15:00 - 16:00) reserved beforehand, the streaming server 102 carries out stream distribution of the above-mentioned contents data to the client PC 107 with a demand. The contents distribution system 100 can offer now the personal casting service which a user's PC 106 user makes realize individual broadcast of receiving the contents data photoed with the digital camera etc. on real time to a client PC 107 side, and reproducing by doing in this way.

[0016] Moreover, in this contents distribution system 100, in order to realize personal casting service whose user can ensure dispatch of individual broadcast to desired time amount, the reservation system of access and an activity is adopted to each user's streaming server 102. That is, a user demands reservation of the time zone which wishes to perform individual broadcast, i.e., the time zone when a user (PC) accesses to the streaming server 102 at, and wishes the activity of the stream distribution function by the streaming server 102 concerned, of the server activity reservation management center 101 through the Internet 103. And when reservation is permitted by the server activity reservation management center 101, a user PC 106 accesses the streaming server 102 in the time zone based on this reservation, and enables it to perform live distribution.

[0017] Although the contents distribution system 100 is a system which offers the personal casting service which introduced a reservation system which was mentioned above, it is hereafter explained to a detail about each component of this contents distribution system 100.

[0018] A-2. user PC **** and a user PC 106 are explained. With this operation gestalt, in the personal casting service by the contents distribution system 100, a user PC 106 shall say PC which the user who has the access which can become the broadcaster side who creates and sends contents data uses for dispatch of the above-mentioned contents data etc., after passing through the registration procedure processing mentioned later.

[0019] As shown in drawing 2, a user PC 106 As work-piece memory of CPU (central processing unit) 120 and CPU120 which control each part while performing various data processing RAM used ()

[Random Access] The operating system which reading appearance is carried out to ROM (Read only Memory)122 and CPU120 which stored the program group which reading appearance is carried out to Memory121 and CPU120, and is performed, and is performed (For example) As opposed to the hard disk 123 and user who stored program groups, such as "Windows 95 / 98/2000" (Microsoft Corp.), and an application program A keyboard for the interface 125 for a display for displaying on a display 124 the image according to the data supplied from the displays 124, such as a liquid crystal display which displays an image, and CPU120, and a user to input directions, A mouse, The control units 126, such as a rotary dial mentioned later and a manual operation button, and a control unit 126 are minded. The interface 127 for control units and telephone network 104 (refer to drawing 1) which supply the data showing the inputted directions to CPU120 are minded. It has the network interface 128 which delivers and receives data between the equipment connected to the Internet 103 (refer to drawing 1) or the network 108 (refer to drawing 1) only for server connection, and the digital video camera 129 built in in a user PC 106. In addition, a hard disk 123 is written by reading and CPU120, and is used also for storage of dynamic-image data and the various data for control.

[0020] Here, drawing 3 shows the example of an appearance configuration of the user PC 106 who built in the above digital video cameras 129. keyboard side case section 106b which arranges display side case section 106a which arranges liquid crystal screen 124a, and keyboard 126a like a notebook mold personal computer with the user PC 106 common as shown in drawing 3 (a) who shows this example -- having -- **** -- both -- hinge region 106c -- relativity -- it is connected pivotable. Moreover, carrying out a relative revolution is also made possible in the direction which shows display side case section 106a by the drawing Nakaya mark A to keyboard side case section 106b. Furthermore, actuation dial 126b of a rotating type is prepared in the end side of display side case section 106a. Not only revolution actuation but this actuation dial 126b can perform press actuation.

[0021] Carbon button case section 106e which has arranged manual operation button 126c of plurality (a graphic display is four), and the digital video camera 129 mentioned above are attached in one side edge side of keyboard side case section 106b. Here, fixed installation of the carbon button case section 106e is carried out like a graphic display. On the other hand, the digital video camera 129 is supported free [a revolution] by one point of the side edge side of keyboard side case section 106b, and the revolution in the direction which this shows by the arrow head B in drawing is attained for it.

[0022] A user PC 106 becomes possible [using it with a gestalt as shown in drawing 3 (b) - drawing 3 (d) other than the common note type personal computer shown in drawing 3 (a), and a similar gestalt] under such structure. For example, if it is used with a gestalt as shown in drawing 3 (b), a user can grasp the user PC 106 concerned and can photo the user itself with the digital video camera 129. Under the present circumstances, since liquid crystal screen 124a is turned to the user side like a graphic display, a user can take a photograph, checking what kind of image is photoed. When using it with such a gestalt, since it is located in a user's background, keyboard 126a is difficult for a user doing exact actuation. In consideration of this point, the actuation (for example, actuation for directing addition of photography initiation, a halt, a zoom, and an effect, preservation of dynamic-image data, transmission, etc.) about photography of the digital video camera 129, processing of a photography image, etc. in processing according to the application program mentioned later can carry out now by operating suitably actuation dial 126b and manual operation button 126c which were mentioned above. Moreover, if it is used with a

gestalt as shown in drawing 3 (c), while a user grasps a user PC 106 and looks at liquid crystal screen 124a, the object for photography which is present in a transverse plane can be photoed.

[0023] By performing the application program with which CPU120 was stored in ROM122 and the hard disk 123 based on the directions of a user inputted by the charge and the control unit 126 of the power source which is not illustrated, in service of the contents distribution system 100 mentioned above, return and a user PC 106 are constituted by drawing 2 so that varieties, such as carrier beam dynamic-image data message distribution processing, dynamic-image data origination and processing processing, and WWW (World-Wide Web) browsing, may be processed. It explains paying attention to various functions realized when CPU120 performs processing according to this application program hereafter, referring to the display screen etc. about a user's PC 106 function.

[0024] First, in a user PC 106, if the above-mentioned application program is performed, the display of an initial screen as shown in a display 124 by control of CPU120 at drawing 4 will be made. As shown in this drawing, in this initial screen, the subimage display area 41 of small size where the preview of the image photoed at the last at the time of the last application program activation concerned is displayed as the main image display area 40 of the large size which displays the image photoed with the digital video camera 129 is displayed on a screen upper right side. Moreover, GUI (Graphical User Interface) for making the mode (mode), the class (camera) of image, setting out (setting), and the content (operation) of directions choose is displayed on the subimage display area 41 bottom. A user can perform now class selection, setting-out modification, a directions input, etc. of images, such as mode selection, a still picture (STILL), or an animation (MOVIE), by carrying out selection setting out of these items suitably.

[0025] It sets to the application concerned here. A user photography mode (mode at the time of choosing "it photographing" on GUI), and upload mode (a GUI top -- "- to see -- it sends --" -- the mode at the time of choosing) -- Web check mode (mode at the time of choosing "Web being seen" on GUI), The five modes, such as live reservation mode (mode at the time of choosing "the live reservation / check" on GUI) and live distribution mode (mode at the time of choosing "live distribution" on GUI), can be chosen now. In addition, photography mode is chosen in the initial state at the time of the application program starting concerned.

[0026] Photography mode is the mode which takes a photograph with the digital video camera 129 which a user PC 106 builds in, and a screen as shown in drawing 5 (a) by control of CPU120 is displayed on the case where this mode is chosen, or an initial state. As shown in this drawing, like the initial screen (refer to drawing 4) mentioned above, the main image display area 40 and the subimage display area 41 are shown by the display screen in photography mode, the image under present photography is displayed on the main image display area 40, and the preview of the image photoed at the last before the present photography is displayed on it by the subimage display area 41.

[0027] Also in this mode, GUI mentioned above is displayed on the subimage display area 41 bottom. As shown in drawing 5 (b), to GUI in this mode Selections called "mode", "camera", "setting", and "operation" which were mentioned above are displayed. In the selections of "operation" in this mode There are an item ("capture") for directing the capture of an image, an item ("network connection / cutting") which directs to connect/cut to the Internet. After moving Focus F (a thick wire illustrates) on a desired item by carrying out revolution actuation of the actuation dial 126b, by carrying out press actuation of the actuation dial 126b, a desired item can be chosen and it can determine.

[0028] In this photography mode, to moreover, manual operation button 126c (refer to drawing 3) prepared in carbon button case section 106e If the command which is needed in the case of image photography is assigned (for example, command which directs selection of the effect given to an image etc.), a user Actuation on photography mode can be performed by actuation of only actuation dial 126b and manual operation button 126c, without using keyboard 126a (referring to drawing 3). It becomes possible to perform easily photography actuation with the gestalt in the location keyboard 126a as shown in drawing 3 (b) and drawing 3 (c) is hard to operate. In addition, although you may make it manual operation button 126c assign the above commands as a default, it may enable it to choose the command which a user assigns to arbitration for every mode at manual operation button 126c in other modes explained to this photography mode or the following. If it does in this way, by setting up so that a

user may assign a command with high operating frequency to manual operation button 126c in each mode, in each mode, the need of operating keyboard 126a will decrease and operability will improve. [0029] the status window SW display on the screen lower part side show in drawing 5 (a) be the present user PC 106 conditions (for example, a dc-battery residue, available memory of a hard disk drive, etc.), and a processing state (for example, information, such as command assignment of the data size of the image currently photo, the specify preservation places (a hard disk, network, etc.), and manual operation button 126c, be display.) in the choose mode.

[0030] Next, upload mode is the mode transmitted to the server (un-illustrating) of the predetermined upload place which made display it and referred to the image data photoed in the photography mode mentioned above, or chose image data, and was connected to the Internet 103 (refer to drawing 1). When this mode is chosen, a screen as shown in drawing 6 (a) is displayed on a display 124 by control of CPU120. As shown in this drawing, the preview area 42, the list display area 43 which displays the photoed image side by side (it is arranging perpendicularly in the example of a graphic display), GUI, the status window SW, and the transmitting capsule icon SC are displayed on the display screen in upload mode.

[0031] As shown in drawing 6 (b), to "operation" of GUI in upload mode The item which directs to connect/cut to the Internet "they are connection/cutting to a network", The item which directs transmitting initiation / termination of image data "transmitting initiation / termination", The item which directs migration of Focus F in the list display area 43 "focal migration", There is an item ("refer to transmitting capsule") which directs to see the list of the image data chosen so that the inside of the transmitting capsule icon SC may be seen, namely, it may transmit. After moving Focus F to a desired item by carrying out revolution actuation of the actuation dial 126b like the above-mentioned photography mode, a desired item can be chosen by pressing actuation dial 126b.

[0032] Moreover, in upload mode, the command which directs playback/halt of the dynamic image to the preview area 42, the display of a static image, etc. is assigned to manual operation button 126c. Moreover, the file name of image data, a file size, formats (JPEG (JointPhotographic Experts Group), MPEG (Moving Picture Experts Group), etc.), and the information (Server Name to upload and its URL (Uniform Resource Locator)) that shows the transmission place by which current assignment is carried out are displayed on the status window SW in this mode.

[0033] Here, when the item ("focal migration") which directs migration of Focus F in the list display area 43 is chosen, Focus F moves onto the list display area 43. Thus, when Focus F moves onto the list display area 43, sequential migration of the image top with which a list indication of the focus F is given according to revolution actuation of actuation dial 126b will be carried out. A user does revolution actuation of the manual operation button 126c and moves Focus F on the image data concerned to transmit a certain image data. And if press actuation of the actuation dial 126b is carried out, as shown in drawing 6 (a), SUBGUI for directing the processing to that image data will be displayed, and Focus F will move onto the item of this SUBGUI. As shown in drawing 6 (c), "preservation", "deletion", the "preview", and the directions item of "putting into a transmitting capsule" are set to SUBGUI. Here, if revolution actuation of the actuation dial 126b is carried out, "put into a transmitting capsule", and it is made to move and also [which is processing of a request of Focus F] press actuation of the actuation dial 126b is carried out, it will be added to the list of the image data which the image data concerned should transmit. Thus, in choosing the image data which transmits and transmitting actually, Focus F is returned on the item of GUI and it chooses transmitting initiation / termination. Thus, selection of transmitting initiation / termination performs transmitting processing of the image data chosen by a user's PC 106 CPU120.

[0034] Next, Web check mode is, when it is the mode in which connect with networks, such as the Internet, and browsing is performed and Web check mode is chosen, A screen as shown in drawing 7 (a) is displayed on a display 124 by control of CPU120. As shown in this drawing, in order to display a resource on the browser display screen 44 which displays a web browser, and the browser display screen 44, in Web check mode, the URL display column 45 which displays URL to which the input etc. was carried out, GUI, and the status window SW are displayed. Here, if Web check mode is chosen, browser

software (for example, Internet Explorer (Microsoft Corp.) and Netscape Navigator (trademark of the Netscape company)) stored in the hard disk 123 by CPU120 will be performed, and the display screen by the above-mentioned browser software will be displayed on the browser display screen 44.

[0035] As shown in drawing 7 (b), "browsing" for choosing the item directed in the case of browsing is displayed on GUI in Web check mode, and the item ("jump") which directs to jump to a predetermined Web page, and the item (for example, "it returns") which operates a browser are displayed on "browsing". [a "degree",] moreover, to "operation" in this mode The item which directs to connect/cut to the Internet "network connection / cutting", There is an item ("focal migration") which directs the migration of Focus F to the browser display screen 44. After moving Focus F to a desired item by carrying out revolution actuation of the actuation dial 126b, a desired item can be chosen by carrying out press actuation of the actuation dial 126b.

[0036] In this "Web check", the usual general browsing processing in which input URL and browsing is performed can be performed.

[0037] Next, live reservation mode is connected to the server activity reservation management center 101 (R> drawing 1 1 reference) through the Internet 103, it is the mode for reserving the time zone for performing individual broadcast using the personal casting service mentioned above etc., and if live reservation mode is chosen, a screen as shown in drawing 8 (a) will be displayed on a display 124 by control of CPU120. As shown in this drawing, in addition to the browser display screen 44, the URL display column 45, GUI, and the status window SW, in live reservation mode, the reservation list display area 46 is displayed like the Web check mode mentioned above.

[0038] As shown in drawing 8 (b), there are an item ("network connection / cutting") which directs to connect/cut to the Internet, an item ("focal migration") which directs the migration of Focus F to the browser display screen 44 in "operation" of GUI in live reservation mode. Moreover, "browsing" is displayed on GUI in this mode like the Web check mode mentioned above, and there are an item ("reservation jump") which directs to jump to the Web page for performing live reservation, an item (for example, "it returns") which operates a browser in "browsing". [a "degree",] A user can choose a desired item by carrying out press actuation of the actuation dial 126b, after moving Focus F to a desired item by carrying out revolution actuation of the actuation dial 126b. In addition, the Web page for performing live reservation is a Web page which the live casting server later mentioned in the server activity reservation management center 101 stores in the hard disk.

[0039] Here, when a user reserves live distribution using personal casting service, a selection decision of the item which directs to jump to the Web page for performing distribution reservation is made.

Thereby, CPU120 can access the above-mentioned live casting server through the Internet 103, in order to perform live reservation, and it can deliver now and receive information about reservation of transmitting reservation demand information to the live casting server concerned, or downloading the reservation setting-out information from a live casting server.

[0040] A list indication of the content which the user reserved to the above-mentioned server activity reservation management center 101 is given, and outline information, such as a reservation time zone, is displayed on the reservation list display area 46 for every reservation. After a user moves Focus F on the reservation list display area 46 by carrying out revolution actuation of the actuation dial 126b, by carrying out press actuation of the actuation dial 126b When the item as which the reservation outline information on the request on the reservation list display area 46 was displayed is chosen, CPU120 Although control which is jumped to the Web page for performing the reservation check of the live casting server of the above-mentioned server activity reservation management center 101 is performed in order to check the reservation The detail about the processing about reservation between a user PC 106 and the server activity reservation management center 101 is mentioned later.

[0041] Next, live distribution mode is connected to the streaming server 102 (refer to drawing 1) through a telephone network 104 and the network 108 only for server connection, it is the mode in which contents data, such as dynamic-image data photoed with the digital video camera 129, are transmitted to the streaming server 102 on real time, and stream distribution of the contents data transmitted in this mode is carried out by the streaming server 102 at the client PC 107 with a demand.

Thereby, the user can distribute individual broadcast on real time.

[0042] If such live distribution mode is chosen, a screen as shown in drawing 9 (a) will be displayed on a display 124 by control of CPU120. As shown in this drawing, in live reservation mode, the preview screen 47 which displays the image with which the image transmitted to the effect display column 48 and the streaming server 102 for choosing the effect given to a photography image is displayed, that is, the predetermined effect etc. was given to the photography image of the digital video camera 129, GUI, and the status window SW are displayed.

[0043] In the status window SW in live distribution mode The broadcasting information which shows that it is under distribution, the distribution elapsed time information which shows the elapsed time from distribution initiation, The time information by the side of a service provider, the time information by the side of a user PC 106, the reservation time zone information that shows reservation start time and reservation end time, Image size information, the bit rate information which shows the transmitting rate (bit rate) of distribution data, The connection place information which shows the title name information on distribution image data, the connected streaming server 102, and its channel, the number information of viewers which shows the number of the clients which have received the contents data in which stream distribution is carried out by the streaming server 102 are displayed.

[0044] As shown in drawing 9 (b), to "operation" of GUI in live distribution mode The item which directs to connect/cut to the Internet "network connection / cutting", The item ("distribution initiation / termination") which directs initiation/termination of live distribution, the effect setting-out item ("effect setting out") which sets up the effect displayed on the effect display column 48, There is an item ("focal migration") which directs migration of the focus F to the effect display column 48. After moving Focus F to a desired item by carrying out revolution actuation of the actuation dial 126b, a desired item can be chosen by carrying out press actuation of the actuation dial 126b.

[0045] If a selection decision of the item which directs initiation/termination of live distribution here is made, CPU120 will be connected to the streaming server 102 through a telephone network 104 and the network 108 only for server connection according to the reservation setting-out information supplied from the live casting server in the live reservation mode mentioned above. And if connection with the streaming server 102 is established, CPU120 will transmit the dynamic-image data which were set as the above-mentioned reservation setting-out information and which it followed the content (for example, data transmission rate etc.), and were photoed with the digital video camera 129 to the streaming server 102 on real time. In addition, the detail about the communication link connection processing between the streaming servers 102, the dynamic-image data transmitting processing after communication link connection, etc. is mentioned later.

[0046] As shown in drawing 10 , the effect name is shown in the effect display column 48 in live distribution mode by every A carbon button in manual operation button 126c, and B carbon button ("A" and "B" are written on the carbon button top face etc.) together with the vertical direction. Here, the effect name most displayed on an upper case is an effect name by which current selection is made. In the example of a graphic display, the effect name "heart pattern display", "nothing", and "applause sound" is shown in sequence by the A carbon button from the top as a selection candidate. The effect name corresponding to the effect name surrounded by the focus F which these move relatively by revolution actuation of actuation dial 126b, That is, when it is for directing to give the effect corresponding to the effect name which current selection is made and is displayed on the maximum upper case and a user does the depression of the A carbon button in manual operation button 126c The effect corresponding to the effect name which was surrounded by Focus F and chosen as it is given to the photography image of the digital video camera 129. For example, when depression actuation of the A carbon button is carried out in the state of a graphic display, processing which applies the applause sound which is an effect corresponding to an "applause sound" to the dynamic-image data photoed by the digital video camera 129 is performed. In addition, it means Focus F not moving in this mode that the above-mentioned focus F moves relatively by actuation of revolving dial 126b, but moving in an "effect name" top. [which the display column of an effect name scrolled and was displayed on the display column as a result]

[0047] The effect name "title imposing" which is surrounded by the current focus F, that is, is chosen as it is displayed on the maximum upper case by the B carbon button, and the effect [sequence / from a top / "BGM1", "monochrome image", and "title imposing"]-caudad name as a selection candidate is shown on it. It is for directing that these give the effect corresponding to the effect name surrounded by Focus F, and when a user does the depression of the B carbon button in manual operation button 126c, the effect corresponding to the effect name surrounded by Focus F is given to the photography image of the digital video camera 129. For example, when depression actuation of the B carbon button is carried out in the state of a graphic display, superimposition processing of the title name which is an effect corresponding to "title imposing" is performed to the dynamic-image data photoed by the digital video camera 129. The effect processing corresponding to the B carbon button to the effect processing corresponding to the A carbon button being addition of the "applause sound" which is the processing given temporarily etc. here is processing given continuously. Therefore, effect grant processing of making it "monochrome image" is continued until depression actuation is carried out next, once it adopts a toggle button as a B carbon button in a user's PC 106 manual operation button 126c and depression actuation is carried out.

[0048] Moreover, on the right-hand side of the screen, the effect name of the presetting beforehand set up by the user is displayed on the pan which shows the effect name corresponding to the B carbon button. The effect independently displayed on this column as button grabbing continues, and the effect displayed here is given, unless the effect preset in effect setting out mentioned later is changed. In the example of a graphic display, "time" is set up and a time display always superimposes in the dynamic-image data distributed in this case.

[0049] It takes into consideration that the above effect processings perform live distribution, i.e., transmit the dynamic-image data photoed with the digital video camera 129 on real time. That is, in order to transmit the photoed image on real time, the actuation at the time of giving an effect etc. to the photoed image enables it to perform processing by the user PC 106 by one depression actuation of the A carbon button or the B carbon button, as the easy thing was required and mentioned above in performing live distribution. However, when depression actuation of the A carbon button or the B carbon button of what can direct the processing which gives an effect by depression actuation of one carbon button is carried out, processing of the effect corresponding to the effect name surrounded by the focus F on the effect display column 48 is performed. The relative movement magnitude of the focus F for giving a desired effect as it is that with which neither the effect name displayed on the effect display column 48 nor its display order agrees in an intention of a user increases, revolution actuation of actuation dial 126b etc. takes time amount, and a user may be able to stop therefore, being able to give a desired effect to desired timing.

[0050] So, in live distribution mode, it can set up now which effect is displayed on the above-mentioned effect display column 48 in what kind of sequence out of the effect of a large number currently prepared beforehand by choosing "effect setting out" in GUI (refer to drawing 9 (b)) mentioned above. Here, drawing 11 shows the screen displayed on a display 124, when "effect setting out" (refer to drawing 9 (b)) of Above GUI is chosen. As shown in this drawing (a), (b), and (c), the A carbon button, the B carbon button, and three screens for setting out called presetting are prepared. Effect list column 50a corresponding to A carbon button which displays the effect name of a large number corresponding to [give temporarily that is,] the A carbon button currently prepared beforehand is displayed on screen left-hand side by the screen which performs effect setting out corresponding to the A carbon button shown in drawing 11 (a), and the registration list column 52 which should be displayed on the effect display column 48 mentioned above is shown in the right-hand side. Registration list column 52for A carbon buttons a, registration list column 52for B carbon buttons b, and preset-entry column 52c are displayed on the registration list column 52, the foreground color of registration list column 52for B carbon buttons b and preset-entry column 52c differs from the foreground color of registration list column 52a for A carbon buttons on the screen for A carbon button setting out, and the user enables it to recognize easily by this the registration column in which the present setting out is possible. A scrolling indication of the effect name of effect processing of a large number which are beforehand prepared for

effect list column 50a corresponding to A carbon button and which can be performed is given in the vertical direction.

[0051] In such a display screen, the effect which chose the effect which should be displayed on the effect display column 48, and was chosen as registration list column 52a for A carbon buttons from the effects currently displayed on effect list column 50a corresponding to A carbon button is dragged. Thus, a user can set up so that the effect of the request corresponding to the A carbon button may be displayed on the effect display column 48 in order of a request.

[0052] When setting up the effect corresponding to the B carbon button, the screen shown in drawing 11 (b) is displayed. Effect list 50b corresponding to B carbon button which displays the effect name of a large number corresponding to [give continuously that is,] the B carbon button currently prepared beforehand is displayed on the right-hand side of this screen. A scrolling indication of the effect name of effect processing of a large number which are beforehand prepared for such effect list 50b corresponding to B carbon button and which can be performed is given in the vertical direction.

[0053] In such a display screen, the effect which should be displayed on the effect display column 48 is chosen from the effects currently displayed on effect list column 50b corresponding to B carbon button, and it drags to registration list column 52b for B carbon buttons. Thus, a user can set up so that the effect of the request corresponding to the B carbon button may be displayed on the effect display column 48 in order of a request.

[0054] When setting up the effect of presetting, the screen shown in drawing 11 (c) is displayed. Presetting effect list 50c which displays the effect name of a large number which are prepared beforehand, and which are given continuously is displayed on the right-hand side of this screen. A scrolling indication of the effect name of effect processing of a large number which are beforehand prepared for such presetting effect list 50c and which can be performed is given in the vertical direction.

[0055] In such the display screen, the effect which should be displayed on the effect display column 48 is chosen from the effects currently displayed on presetting effect list column 50c, and it drags to registration column 52c for presetting. Thus, a user can set up the effect of presetting.

[0056] Generally, in performing live distribution, it has done timing, sequence, etc. which give the class of effect which should be given, and its effect as a design for a user. Therefore, if setting out in consideration of the class and grant sequence of the effect based on the design for such a user to give is performed beforehand, in live distribution, effect processing which reproduced the design for a user more faithfully by simple actuation can be performed.

[0057] Although a user PC 106 can store the application program equipped with five functions, such as the above photography modes, upload mode, Web check mode, live reservation mode, and live distribution mode, in a hard disk 123 and the above processing facilities can be performed Although the program for performing processing which carries out the automatic incorporation of the reservation setting-out information file otherwise later mentioned at the time of live distribution reservation, and the program for performing communication link connection processing to the streaming server 102 at the time of live distribution are stored The detail about the function by such program executions is mentioned later.

[0058] As A-3. server activity reservation management equipment **** was carried out, when a user PC 106 performs live distribution as a broadcaster, it is necessary to perform reservation which the streaming server 102 uses for the time zone which performs live distribution with the personal casting service offered by the contents distribution system 100. Next, it explains, referring to drawing 1212 about the server activity reservation management center 101 by the side of the service provider which manages activity reservation of such a streaming server 102.

[0059] As shown in this drawing, the server activity reservation management center 101 is equipped with the live casting server 150 and the reservation database 151 which are connected to LAN (Local Area Network), the user database 152, the NTP (Network Time Protocol) server 153, the network interface 154, and the database server 155. Here, each above-mentioned component of the server activity reservation management center 101 delivers and receives various data between the streaming servers 102 connected to the user PC 106, the client PC 107, and dedicated line 109 (refer to drawing 1) which

are connected to the Internet 103 through a network interface 154.

[0060] The live casting server 150 is a server which performs processing for managing the whole service concerned of reservation processing of the live distribution in personal casting service, accounting, registration processing of a service member, etc. For registration for the live casting server 150 to acquire the access in which a user receives the service concerned, For a reservation check to perform a reservation check and for the object for reservation reception and user who receive the reservation from a user make a change, And the Web pages for the race card reference for making the race card by which live distribution is carried out refer to to a client PC 107 etc. are stored in a hard disk. When there is a demand from a user PC 106 and a client PC 107, it is made as [make / a user PC 106 and a client PC 107 / to peruse the Web page according to this demand]. Hereafter, the Web page currently prepared for the live casting server 150 is explained, referring to the display screen displayed on the browser screen by the side of PC which required access of the Web page concerned.

[0061] Here, drawing 13 shows the Web page display screen displayed on the demanded PC side, when an input etc. carries out URL for the user of the PC concerned to identify the top page (homepage) of the Web page of the live casting server 150 using PC connectable with the Internet 103 of a user PC 106 and client PC107 grade and an access demand is performed. In addition, when carrying out the access demand of the top page of the Web page of the live casting server 150, there is also a method of jumping to the page concerned by click actuation of the link carbon button on other homepages besides the approach of inputting URL as mentioned above.

[0062] As shown in drawing 13 , to this homepage It adds to the column which enters user ID and a password since it logs in. "Member registration", "it being ? with the personal casting TV", "today's live", If link carbon buttons, such as a "program guide", a "my channel", "live distribution reservation", "program pickup", and "Image Station", are displayed and these are clicked The Web page by which the hyperlink was carried out to each link carbon button is transmitted and displayed on the PC side.

[0063] First, although the Web page for registering the member who can receive the personal casting service concerned will be displayed on the display screen by the side of PC when "member registration" is clicked, the detail about this is mentioned later.

[0064] Next, when "it is ? with the personal casting TV" is clicked, a screen as shown in drawing 14 is displayed on the display screen by the side of PC. As shown in this drawing, the link carbon button "a registration page" which the publication to which member registration of the personal casting service concerned is urged, and the Web page of the above "member registration" are made to jump is displayed on this Web page screen. Moreover, explanation of outline explanation of personal casting service, procedure, etc. is described by this display screen.

[0065] Next, when "today's live" is clicked, a screen as shown in drawing 15 is displayed on the display screen by the side of PC. As shown in this drawing, in this Web page screen While the live program distributed today is displayed and displaying the current time by the side of a service provider (reservation is carried out based on this time amount) on the upper part An information list indication of the items, such as distribution time amount of the special program distributed to the lower part side today and a private program, a title, a distribution person, and an outline, is given (although the example of a graphic display has described the subject name to display). The contents (a distribution person name, title name, etc.) of the above-mentioned item are displayed actually. Here, special programs are contents which an enterprise etc. offers and a private program means the contents offered by the individual user like a user PC 106. Moreover, the program described to be "on demand" instead of distribution time amount is a program for not live distribution but the distribution on demand which memorizes distribution data by the live casting server 150 side beforehand, and is distributed according to a demand from client PC107 grade. Moreover, the "riding capacity" in a private program is information which shows the riding capacity of the number of clients which can receive distribution of the contents of the program concerned, and "OPEN" and "CLOSE" are information which is this time and shows whether it can distribute according to a demand of client lower after taking into consideration the above-mentioned riding capacity's etc. limit ("OPEN" is the distribution possibility of and "CLOSE" is non-delivery).

[0066] Here, the "title" under list of the programs mentioned above serves as a link carbon button, and if this is clicked, as shown in drawing 16, the detailed information of the live program of the clicked "title" will be displayed. If "playback" carbon button 175 is clicked while performing a just password input into the distribution time amount of the program concerned in this screen, a distribution demand of the live program concerned will be transmitted to the streaming server 102 through the Internet 103.

Thereby, the client PC 107 which performed the distribution demand can receive stream distribution of the live program contents concerned by the streaming server 102, and can reproduce this now on real time. In addition, in order to carry out real-time playback of the contents in which streaming distribution was carried out by the streaming server 102, the playback software (for example, "Real player" (RealNetworks), "Windows Media Player" (Microsoft Corp.), etc.) for performing the real-time regeneration concerned is needed. Therefore, when PC which performs a distribution demand does not store the above-mentioned playback software, the "playback software" carbon button 176 is clicked. the contents from which the above-mentioned playback software downloaded to PC, and stream distribution was carried out by the streaming server 102 in the PC concerned by this -- real time -- reproducing -- **** -- things are made.

[0067] Next, when a "program guide" is clicked, a screen as shown in drawing 17 is displayed on the display screen of PC. As shown in this drawing, the month-long calender with which this Web page screen contains a current day is displayed, and the list of the programs which distribute to the date by which a void indication of the calender concerned was given is displayed. Here, the list of the programs displayed is the same as that of "today's live" mentioned above (refer to drawing 16). In this display screen, if the date of the request on the above-mentioned month-long calender is clicked, the program list of the dates concerned will be displayed. in addition, the screen display in the above "today live", and a "program guide" may be a display format like the TV section of the newspaper of prepare the program display column of the shape of a matrix which said not only to a thing but to the axis of ordinate as show in drawing 16 and drawing 17 as time of day, and be said to the axis of abscissa as the channel, and display a title name, a content, a distribution person name, etc. in the matrix concerned, and the display format be arbitrary.

[0068] Next, a "my channel" is a Web page prepared for every [which has the access which can serve as an addresser of live distribution] user (user who mentions later, and by whom premium member registration is done), and if a "my channel" is clicked, the Web page which checks the content of reservation of live distribution of the user at present will be displayed. Moreover, although the Web page for reserving live distribution is displayed and it is when "live distribution reservation" is clicked, the detail about these is mentioned later. In addition, about the user who omits member registration, since there is neither user ID nor a password, log in processing in which above-mentioned user ID and an above-mentioned password are entered can be performed no longer. When a "my channel" and "live distribution reservation" are clicked in PC of the user who omits such log in processing, it does not jump to the Web page which corresponds, respectively, but it jumps "for it to be ? with the personal casting TV", and member registration is demanded from the user concerned.

[0069] Next, "program pickup" is a Web page which introduces the program which a service provider side recommends, and if this is clicked, the detailed information (refer to drawing 16) of the program which a service provider recommends will be displayed.

[0070] The live casting server 150 stores a Web page which was mentioned above in the hard disk.

[0071] As return and the reservation database 151 memorize the information about accounting generated by the reservation status and reservation in live distribution to drawing 12 and it is shown in drawing 18. The content information of reservation which includes a reservation time zone, the channel to be used, an activity band (bps (bitper second)), etc. for every reservation, The reservation ID used for the user ID for identifying a user, the accounting flag information which shows whether reservation is approved and it can charge at the event, and the authentication at the time of the reservation performance concerned is feared the account of response *****. Each of such information will be written in in the cases, such as reservation processing by the live casting server 150 mentioned later, and each information memorized in the authentication processing by the database server 155 mentioned later will be referred to.

[0072] The user database 152 memorizes the information about the registered user who has the access which receives personal casting service, and information, such as a name (name), user ID, a password, an e-mail address, an address, the telephone number (a cellular phone and facsimile number) and a credit card number for charging, and an expiration date of a credit card, is memorized for every registered user concerned. Each of such information will be written in in the case of the member registration processing by the live casting server 150 mentioned later, and will be referred to in the case of the reservation processing by the live casting server 150 mentioned later.

[0073] The NTP server 153 manages the time information in the equipment by the side of service providers, such as this server activity reservation management center 101, streaming server 102, etc., collectively, and the live casting server 150 and the streaming server 102 acquired the NTP server 153 to time information, and it has managed the start time and end time of live distribution based on the acquired time information. This has controlled operating on the basis of the time of day when the server activity reservation management center 101 which is equipment by the side of a service provider, and the streaming server 102 shifted mutually by unifying the time of day used as the criteria by the side of a service provider into one in consideration of offering the service which must operate under exact time control called live distribution. Moreover, if it is possible that the time of day of the user PC 106 who is equipment by the side of a user, and the time of day by the side of a service provider have shifted and a user's PC 106 user does not recognize this time-of-day gap, the live distribution start time and end time which a service provider side specifies, and the live distribution start time and end time by the side of a user which are recognized may shift. Therefore, in the reservation processing by the live casting server 150, although the user PC 106 is notified of the gap of this time of day, the time-of-day gap in this case is called for based on the time information which the live casting server 150 acquired from the NTP server 153.

[0074] A database server 155 is a server which performs authentication processing of whether PC accessed in response to the demand from the access server which the network 108 only for server connection does not illustrate is PC (namely, the user PC 106) which performed just reservation in this time zone, when the connection request for using the streaming server 102 is performed from PC of a user PC 106 or other inaccurate persons to the access port of the network 108 only for server connection. Moreover, in the above-mentioned authentication processing, when attested with it being just PC, communication link connection with the streaming server 102 and a user PC 106 will be established, and a user PC 106 will demand activation of stream message distribution processing from the streaming server 102. Under the present circumstances, the streaming server 102 requires authentication processing from a database server 155, in order that PC which has performed the distribution demand may attest whether it is PC which has just reservation. A database server 155 performs authentication processing whether it is PC which has just reservation, also when there is a demand from such a streaming server 102. These authentication processings are later mentioned about the detail of two above-mentioned authentication processings, although carried out by referring to the reservation database 151.

[0075] A-4. A streaming server, next the streaming server 102 shown in drawing 1 are servers which receive contents data, such as dynamic-image data transmitted through the network 108 grade only for server connection from the user PC 106 who has just reservation, as mentioned above, and carry out stream distribution of this contents data to the client PC 107 which performed the distribution demand through the Internet 103.

[0076] The streaming server 102 can carry out stream distribution of two or more contents simultaneously. That is, it has the composition of having two or more channels (system) so that two or more distribution persons can perform live distribution of contents in the same time zone using the streaming server 102. In this streaming server 102, the manpower which can be distributed for every channel, transmission bands (64kbps, 28.8kbps(es), etc.), a utilization tariff, etc. are set up beforehand, and the user who performs contents distribution using the streaming server 102 will choose the channel which should be reserved in consideration of the above-mentioned setting out.

[0077] Moreover, the streaming server 102 stores the commercial contents distributed to the time zone as for which reservation is vacant, the time amount between programs, etc., and performs message

distribution processing of commercial contents in the above vacant time zones while it performs stream message distribution processing of the contents transmitted by the live distribution person of user PC106 grade, as mentioned above.

[0078] Moreover, although the streaming server 102 will control management of a distribution time zone, a limit of the more than client PC 107 to distribute, etc. according to the content of reservation permitted by the server activity reservation management center 101 to the user PC 106, it mentions later about these processings.

[0079] A-5. As shown in communication-path drawing 1 of the streaming server for performing live distribution, and User PC, the streaming server 102 is connected to the network 108 only for server connection, and as mentioned above, when performing live distribution, a user PC 106 will connect with the streaming server 102 through a telephone network 104 and the network 108 only for server connection. The network 108 only for server connection is a network of the dedication established in order to perform live distribution in the personal casting service offered by the contents distribution system 100 concerned.

[0080] Here, with this contents distribution system 100, although it is also possible to make communication link connection with the streaming server 102 and a user PC 106 through the Internet 103, in order to secure the transmission line and transmission band of contents data from the user PC 106 to the streaming server 102, the network 108 only for server connection for connecting with the streaming server 102 is formed. Thus, using the network of dedication is based on the following reasons. In order for a user PC 106 to access the Internet 103, it is necessary to connect with the Internet Service Provider (henceforth ISP) which the user PC 106 has made a contract of through a telephone network 104. Such ISP will receive not only the registration member of this personal casting service but the connection from many Internet users' PC. When many Internet users connect with the ISP concerned and have accessed the Internet 103, it will become impossible therefore, to secure a transmission band required in order that a user PC 106 may perform live distribution. moreover, a circuit is [a user PC 106] busy -- etc. -- it has been said that it is not connectable with ISP for a reason The channel of a desired bit rate must be certainly secured to desired time amount between the streaming servers 102, and if the above-mentioned problem arises, it will become impossible to offer normal service, in order to perform live distribution although the problem that the above connection environments get worse may arise in the data transmission which uses the Internet 103. Therefore, in the contents distribution system 100, it has prevented that the above problems arise by preparing the network 108 only for server connection, without using the Internet 103.

[0081] Here, the circuit of a large number linked to the streaming server 102 is prepared for the network 108 only for server connection. The number of circuit prepared for the network 108 only for server connection is more than the maximum number of users with which connection is permitted to the streaming server 102 in the same time zone (when for example, the number of the connection authorization maximum users is ten persons, a number of circuit is 20). This is based on the following reasons. PC which has required and carried out the connection request of the authentication processing to the database server 155 (refer to drawing 12) to PC with which the access server of the network 108 only for server connection has required connection as having mentioned above has attested [which has just reservation] whether it comes out. When it is judged that it does not have just reservation in this authentication processing, it is supposed that the call from PC which has carried out the connection request is cut promptly. Therefore, one circuit will become a busy while performing the above authentication processings, although an inaccurate person's PC cannot use the circuit of the network 108 only for server connection. When an inaccurate person does call origination of many numbers of the maximum users which permit connection, and numbers of circuit to prepare to it being the same simultaneously to the access port of the network 108 only for server connection for the purpose of active jamming of personal casting service etc., it will become impossible for this reason, to connect PC of the user who has just reservation. Therefore, it is reducing that service is barred by active jamming of an inaccurate person by preparing more [as mentioned above] numbers of circuit than the number of the maximum users.

[0082] Moreover, when connection with the streaming server 102 is permitted before predetermined time, this finishes connection processing of authentication etc. before distribution start time and it becomes reservation distribution start time from the distribution start time based on reservation, it enables it to perform live distribution with this personal casting service. Therefore, when a different user's reservation time amount is continuing, the following problems may arise. The connection after going through the distribution initiation predetermined time front by the user who reserved connection of the user under distribution which reserved previous time amount, and next time amount laps, and it will become impossible that is, to be unable to cope with it in the number of circuit of only the number of the maximum users which can be distributed. Therefore, also when connection with the above reservation users of a previous time zone and the reservation user of a next time zone laps, it enables it to cope with it by preparing the number twice the number of circuit of of the maximum users as mentioned above.

[0083] moreover, you may make it the network 108 only for server connection for connecting with the streaming server 102 prepare an access port connectable from not only an access port but two or more telecommunications service operators' each network (for example, ISDN (Integrated Services Digital Network) and a migration telephone network) to one telecommunications service operator's (Carrier) network (for example, public telephone network) In this case, in a user PC 106 side, the telecommunications service operator who connects will be chosen, call origination will be carried out to the access port corresponding to the network of the telecommunications service operator concerned, and the communication link connection between the streaming servers 102 will be established through the network 108 only for server connection.

[0084] A-6. As client PC **** was carried out, stream distribution of the user PC 106 will be carried out through the Internet 103 to the client PC 107 to which the contents data transmitted to the streaming server 102 on real time gave the distribution demand to the streaming server 102. A client PC 107 can also perform a distribution demand from the Web page (refer to drawing 16) of the live casting server 150 mentioned above, can input URL of the streaming server 102 and can also give a direct distribution demand now to the streaming server 102. PC which gives a distribution demand to the streaming server 102 in this way, and receives the streaming distribution from the streaming server 102 with this operation gestalt shall be said. An application program for these clients PC 107 to carry out real-time playback of the contents data by which streaming distribution was carried out for example, "Real player" (RealNetworks) -- the contents data distributed by storing "Windows Media Player" (Microsoft Corp.) etc. and performing the application program concerned at the time of distribution -- real time -- reproducing -- **** -- things have come be made.

[0085] B. Explain various processing actuation of the contents distribution system 100 of the above-mentioned configuration for realizing actuation of a contents distribution system, next live casting service.

[0086] B-1. When the user of member registration **** and a user PC 106 performs live distribution using personal casting service, in order to get the access which performs live distribution in the service concerned, it is necessary to perform member registration to the live casting server 150 of the server activity reservation management center 101. Here, drawing 19 shows the user PC 106 at the time of performing this member registration, and the sequence flow chart of processing actuation of the live casting server 150. As shown in this drawing, in performing member registration, a user PC 106 accesses the Internet 103 and performs the access demand of a Web page to the live casting server 150 (refer to drawing 12) (step Sa1). Here, when a user PC 106 accesses the Internet 103, after supplying a power source to a user PC 106, the application program mentioned above is started first. And a user displays on a display 124 the screen shown in drawing 7 (a) by choosing Web check mode. In this Web check mode, an input etc. carries out URL for identifying the Web page of the live casting server 150, and a user performs an access demand.

[0087] Thus, if a user PC 106 performs the access demand of a Web page to the live casting server 150, a Web page will be transmitted to a user PC 106 through the Internet 103 from the live casting server 150 (step Sa2). The user PC 106 who received the transmitted Web page displays the Web page

concerned on the browser display screen 44 (step Sa3).

[0088] At the time of such an access demand and Web page transmission, following actuation and processings are performed by the user PC 106 and the live casting server 150. First, if a user PC 106 inputs URL of the live casting server 150 and performs an access demand, the top page of the Web page which the live casting server 150 shown in drawing 13 stores will be displayed on the browser display screen 44. Here, in order to perform member registration, a user clicks "member registration." Thereby, a user's PC 106 CPU120 performs the access demand of the Web page for performing member registration to the live casting server 150 through the Internet 103 according to the click actuation concerned. And the Web page for member registration is transmitted from the live casting server 150, and CPU120 of the user PC 106 who received this displays the screen for member registration as shown in drawing 20 on the browser display screen 44.

[0089] As shown in drawing 20, the input column for inputting the item concerned as the subject name which should input for performing member registration is displayed on the screen for member registration. Here with this personal casting service With the general member who receives the service which receives the contents by which live distribution is carried out, the function 102, i.e., the streaming server, of the client PC 107 which was mentioned above Two kinds of member registration called the premium member who is on the distribution side which performs live distribution in addition to the above-mentioned service which carries out contents reception, and can use service is prepared. The input column 210 general and for premium common and the input column 211 only for premium members are displayed on the screen for member registration.

[0090] In this display screen, the user who registers only a general member like the user of a client PC 107 will input each item of the input column 210. Here, if Cancel button 212 which makes an invalid the inputted content, and the registration carbon button 213 which directs registration from the content of an input are displayed on the input screen for member registration and a user clicks the registration carbon button 213, the content inputted into the input column 210 by CPU120 will be transmitted to the live casting server 150 through the Internet 103 as information for registration.

[0091] On the other hand, when performing premium member registration, a user will check to a check box and will perform the input to each item of the input column 210 and the input column 211. When the input of each item by the user is completed and the registration carbon button 213 is clicked, and a user's PC 106 CPU120 The information file for registration of the same content as the content inputted into the above-mentioned input screen for member registration is created. While transmitting this to the live casting server 150 through the Internet 103 (step Sa4), the information file for registration concerned is written in the hard disk 123 in a user PC 106, and is memorized.

[0092] It distinguishes whether the live casting server 150 receives the information file for registration created according to user's PC 106 user's content of an input as mentioned above through the Internet 103, checks the content of the information file for registration which received, and permits registration (step Sa5). The content of processing here is as follows. First, there is no information about a certain item, that is, when the user has not inputted about the item, a user PC 106 side notifies that and reinput is urged. Moreover, the live casting server 150 accesses the credit check server of a credit firm through the Internet 103, confirms whether the credit card in the information file for registration is effective, and only when the credit card concerned is effective, it permits registration.

[0093] In permitting registration, the live casting server 150 writes the information on each item in the above-mentioned information file for registration in the user database 152, and performs registration processing (step Sa6). Moreover, in registration processing of a premium member, the Web page of the "my channel" corresponding to the registered user concerned is created, and it stores in a hard disk.

[0094] After such registration processing is completed, the live casting server 150 notifies a user PC 106 of registration processing having been completed through the Internet 103 (step Sa7), and member registration processing ends it.

[0095] B-2. After carrying out distribution reservation **** and completing member registration processing [like], a user's PC 106 user can become the distribution side which performs live distribution using personal casting service, and distribution reservation will be carried out to the live

casting server 150 for performing live distribution actually. With this personal casting service, once a user performs reservation registration to the live casting server 150, when a user performs reconfirmation (reconfirmation of reservation) to the live casting server 150 even before the predetermined time of the reserved live distribution time amount (for example, 6 hours before), reservation is approved. Thus, by imposing a duty of reconfirmation upon the user who reserved, performance establishment of reservation is raised and empty reservation is reduced. Furthermore, with this personal casting service, the number of the maximum coma (it is 10 minutes for example, about one coma) which the registered user can reserve in one month is set up, and it has inhibited that the service concerned will be in an oligopoly condition by a small number of user by this.

[0096] B-2-1. Explain below reservation registration, referring to the display screen of drawing 21 and User PC 106 who showed the sequence flow chart of the processing actuation concerned etc. about the user PC 106 at the time of performing reservation registration in such distribution reservation, and processing actuation of the live casting server 150.

[0097] As shown in this drawing, when performing distribution reservation, a user starts the application program mentioned above, after supplying a power source to a user PC 106. And a user displays on a display 124 the screen shown in drawing 8 (a) by choosing live reservation mode. In this live reservation mode, a user operates actuation dial 126b etc. and makes a selection decision of the "reservation jump" which is the selections of GUI. Thereby, a user's PC 106 CPU120 performs the access demand of the Web page (Web page when "live distribution reservation" of drawing 13 is clicked) for performing connection processing to the Internet 103 and performing distribution reservation to the live casting server 150 (step Sb1). Thus, although the access demand of the Web page for performing distribution reservation by making a selection decision of "the reservation jump" by the function realized by the above-mentioned application program can be performed in a user PC 106, the access demand of the Web page concerned can also be performed by inputting URL. The access demand of the homepage which inputs URL and is specifically shown in drawing 13 can be performed, the input of user ID and a password can be performed, it can log in, and the access demand of the Web page for performing distribution reservation by actuation of clicking the link carbon button of "live distribution reservation" can be carried out.

[0098] Thus, if a user PC 106 performs the access demand of the Web page for distribution reservation to the live casting server 150, a Web page will be transmitted to a user PC 106 through the Internet 103 from the live casting server 150 (step Sb2). The user PC 106 who received the transmitted Web page displays the Web page concerned on the browser display screen 44 (step Sb3).

[0099] Here, drawing 22 shows the Web page for distribution reservation displayed on the browser display screen 44. As shown in this drawing, on this display screen, the month-long calender column 220, the reservation situation-display column 221 which shows the reservation status of the date by which it was indicated by void to the calender concerned, the input column 222 for reservation as which the item and the input column which should be inputted for a user to reserve are displayed, the reservation carbon button 223 which directs the application of reservation, and Cancel button 224 carry out the content of the input column 222 for reservation of an input to an invalid are displayed.

[0100] In this display screen, a user clicks the day which wishes the reservation in the month-long calender column 220. Thereby, a user's PC 106 CPU120 requires the data for displaying the reservation status of the date concerned of the live casting server 150 through the Internet 103 while indicating the clicked date by void. The data for creating data for the carrier beam live casting server 150 displaying the reservation status of that date in this time for this demand by referring to the content of registration of the reservation database 151, and displaying the demanded reservation status of the date are transmitted to a user PC 106 through the Internet 103. A user's PC 106 CPU120 displays the reservation situation display column 221 based on this data.

[0101] The number of riding capacity which can be distributed, the transmission band to be used, a toll, and the reservation status ("empty" or settled ["settled"]) for every time of day are displayed on the reservation situation display column 221 for every channel like a graphic display, and referring to this reservation situation display column 221, a user determines a channel, a time zone, etc. and inputs each

item of the input column 222 for reservation. The number of riding capacity in which the above-mentioned distribution is possible, the transmission band, and the toll are beforehand set up for every channel here, and the user of the user PC 106 who is a contents distribution person can choose the channel corresponding to a toll which met hope by referring to the information set up beforehand, the number of riding capacity, etc. for every channel displayed on the reservation situation display column 221.

[0102] The item which should be inputted in the input column 222 for reservation here The "channel" which chooses the channel to be used, the "reservation time" which specifies the time to reserve, "Open level", the "title" which inputs the title name of contents, The "genre" which inputs the genre to which contents belong, "electronic mail disclosure" which chooses the existence of disclosure a contents provider's e-mail address, "WEB disclosure" which chooses the existence of disclosure of URL a contents feeder's Web page, They are items, such as the "password" and the "friend list" which enter a password, an "outline" which writes in the outline of contents within predetermined number of letters (for example, 20 characters), and a "detail" which writes in the detail of contents within predetermined number of letters (for example, 200 characters).

[0103] The input item "open level" in the input column 222 for reservation is an item as which the user who is a contents feeder specifies constraint of the open level of the contents supply distributed based on this reservation, i.e., the distribution place of contents, and can specify now three level, such as "Public", "Password", and "Secret", here.

[0104] When it specifies exhibiting "Public" thoroughly and "Public" is specified, if it is those who are doing general member registration which mentioned above, offer of the contents by the contents distribution based on the reservation concerned can be received (however, less than the number of riding capacity).

[0105] "Password" is the open level from which only those who restrict those who can receive the contents supply based on the reservation concerned, and performed the just password input can receive contents distribution. When a user chooses "Password", it is necessary to enter the password used in that case.

[0106] Next, it is the open level to which "Secret" permits contents distribution only to those who performed the just password input like the above "Password." Also when a user chooses "Secret", it is necessary to enter the password used in that case. Here, when "Password" or "Secret" is chosen, the information on the distribution time amount of the program concerned, the above-mentioned password, etc. is notified to the e-mail address specified as the "friend list" mentioned later.

[0107] Moreover, at the point that "Password" and "Secret" permit only a specific person contents supply, although it is the same, it is not exhibiting "Secret's" not being carried by the above-mentioned Web page to the program based on this reservation being carried by "today's live" mentioned above and the Web page of a "program guide", but contents supply being performed itself, when both point of difference chooses "Password." When "Secret" is chosen, only those who have the e-mail address carried by the "friend list" mentioned later will be notified of there being the contents distribution.

[0108] A user chooses either of three open level called "Public", "Password", and "Secret" which were mentioned above, and has come to be able to carry out the thing of it in consideration of the content of the contents to distribute etc. When this is made full disclosure, it becomes impossible for example, for the above-mentioned specific person to receive distribution of the contents concerned for the distribution demand of those other than the above-mentioned specific person in a carrier beam case by riding-capacity limit, although it is economically desirable to choose a channel (low tariff) with few riding capacity to perform contents distribution to specific a small number of people. Therefore, in such a case, contents distribution can be performed to a specific person by choosing "Password" and "Secret" certainly and economically.

[0109] The input item "a friend list" in the input column 222 for reservation is a column which inputs the e-mail address of those who expect that a user's PC 106 user notifies performing contents distribution by the time zone based on the reservation concerned, or the channel. Here, although the live casting server 150 will transmit an electronic mail including the various information for receiving offer

of contents distribution based on the reservation concerned to the inputted e-mail address, it mentions later about this to it.

[0110] If the input of each item of the above input columns 222 for reservation is completed and the reservation carbon button 223 is clicked, a user's PC 106 CPU120 will create the information file wishing reservation of the same content as the content of an input of the input column 222 for reservation, and will transmit this information file wishing reservation to the live casting server 150 through the Internet 103 (step Sb4). In addition, although made in the example shown in drawing 22 as [perform / when a user operates a keyboard etc. in each column of the input column 222 for reservation and inputs an alphabetic character etc. into it / an input] When a selection candidate is displayed with a pull down menu and a user does selection assignment out of the displayed candidate, you may enable it to perform an input about the item the contents which can be inputted beforehand, such as a "channel", "reservation time", and the "genre", are decided to be.

[0111] The live casting server 150 receives the information file wishing reservation created according to user's PC 106 user's content of an input as mentioned above through the Internet 103, and transmits the Web page for reconfirming whether the content of the information file wishing reservation which received is sufficient (step Sb5). The display for which this urges the check of the information wishing reservation as shown in drawing 23 to a user's PC 106 display screen is made. Under the present circumstances, the display of the utilization tariff of the service based on the reservation concerned, a check of the e-mail address (e-mail address as which this e-mail address was inputted into the user at the time of member registration) of the transmission place of reservation setting-out information which transmits to a user PC 106 from the live casting server 150 behind, etc. is also made. Moreover, as mentioned above, a duty is imposed so that the user who reserved live distribution may reconfirm even before the predetermined time of the distribution time amount based on the reservation concerned (for example, 6 hours before), and the message for telling a user about the activation procedure of that and reconfirmation is also expressed as this personal casting service.

[0112] Here, if the content displayed on the above-mentioned check screen is sufficient, a user clicks the comprehension carbon button 240, and when not good, he will click Cancel button 241 from the content displayed on the above-mentioned check screen. If Cancel button 241 is clicked, that is transmitted to the live casting server 150, the screen for a reservation input shown in drawing 22 will be displayed on a user's PC 106 display screen, and the live casting server 150 will urge an input for the second time to it while canceling the information file wishing reservation concerned. On the other hand, a click of the comprehension carbon button 240 transmits that to the live casting server 150 through the Internet 103 by CPU120 (step Sb6).

[0113] When the comprehension carbon button 240 is clicked, it distinguishes whether the live casting server 150 checks the content of the information file wishing reservation, and permits reservation (step Sb7). Here, it is confirmed whether the check of the check with the reservation time zone of choice of the channel of choice there is no lack in the content of an input, or vacant etc. is performed, and the user who has demanded the reservation concerned further omits reservation more than the number of setting-out coma. It is as having mentioned above that the number of the maximum coma (it is 10 minutes for example, about one coma) which the registered user can specifically reserve with this live casting service in one month is set up. Therefore, it distinguishes whether the check of whether to permit reservation here has more coma which this user has already reserved in one month than the above-mentioned number of setting-out coma, and in [than the number of setting-out coma] more, it does not permit reservation. On the other hand, in being fewer than the number of setting-out coma, the check result concerned distinguishes having no problem, and reservation is permitted when there is no problem in other check results. Thus, in order to check a user's number of reservation coma for one month, for each [by which premium member registration is carried out] user of every, at least, in the past one month, the reservation status by the present goes back and was memorized by the user database 152.

[0114] In permitting reservation, the live casting server 150 While creating the reservation ID used only for the authentication at the time of reservation performance about the reservation concerned The content information of reservation which contains the mail address of a reservation time zone, the

channel to be used, an activity band (bps (bit per second)), and a friend list etc. based on the content of the above-mentioned information file wishing reservation. The reservation ID created with the user ID for identifying the user who reserved is written in and registered into the reservation database 151 (refer to drawing 18) (step Sb8). In addition, at this reservation registration event, the accounting flag information which shows whether it can charge or not serves as accounting "improper", and this accounting flag is rewritten by "it is good", when reconfirmation is performed behind and reservation is approved. Moreover, the live casting server 150 adds and writes the information about the reservation concerned in the Web page of the "my channel" corresponding to the user who reserved. Moreover, when the above-mentioned open level in the reservation concerned is "Public" or "Password", the live casting server 150 updates a Web page, in order to carry the program based on this reservation to "today's live" mentioned above and the Web page of a "program guide." That is, it memorizes possible [access] that contents distribution based on the above-mentioned reservation is performed. In this case, the Web page concerned can be perused from client terminal unit 107 grade through the Internet 103, and the purport to which live distribution based on the reservation concerned is carried out can be known. That is, also when "Public" is set up and "Password" is set [not to mention] up, the Web page by which it was carried that live distribution based on the reservation concerned is performed is made possible by access, and the 3rd person of arbitration can know a purport with the live distribution concerned. On the other hand, when "Secret" is set up, no live casting server 150 is carried to "today's live" which mentioned above the information about the live distribution performed based on this reservation, and the Web page of a "program guide." Therefore, about the live distribution to which "Secret" was set, only specific men, such as those who received and perused the electronic mail transmission mentioned later, can know that live distribution will be performed now.

[0115] After such reservation registration processing is completed, the Web page which displays management, a prohibition matter, etc. of the copyright at the time of using the service concerned, and stimulates a user's acceptance is transmitted to a user PC 106, and it is made to display on a user's PC 106 display screen. And when directions of the purport on which it agrees from a user PC 106 are transmitted, the live casting server 150 transmits the Web page which tells completion of the reservation procedure except reconfirmation to a user PC 106. Here, drawing 24 shows the completion screen of a reservation procedure displayed on a user's PC 106 display screen. As shown in this drawing, the message to which it urges reconfirming to a user is displayed on this completion screen of a reservation procedure. Here, if the "O.K." carbon button 245 is clicked, the reservation procedure concerned except reconfirmation will be completed and an electronic mail including the reservation ID created by the live casting server 150 about the reservation concerned will be transmitted to a user PC 106 after this (step Sb9).

[0116] B-2-2. When a user needs to reconfirm even before 6-hour reservation performance time amount in this personal casting service as reconfirmation **** was carried out, and reconfirmation is not performed, that reservation is canceled compulsorily. Therefore, in order to establish reservation, the user who acquired Reservation ID will reconfirm using a user PC 106 with the electronic mail from the above-mentioned live casting server 150. In addition, although it is also possible to use PC used for live distribution and a different PC, a reservation procedure until it receives the reservation ID mentioned above It is obliged to use PC used as a PC which reconfirms in case live distribution is performed, and sets to the following explanation. It explains referring to drawing 25 about the user PC 106 at the time of reconfirming by reconfirming using a user PC 106, and processing actuation of the live casting server 150.

[0117] In reconfirming, a user starts the application program mentioned above, after supplying a power source to a user PC 106 (when a power source is OFF). And a user displays on a display 124 the screen shown in drawing 8 (a) by choosing live reservation mode. In this live reservation mode, a user makes a selection decision of the reservation which performs reconfirmation among the reservation lists which operate actuation dial 126b etc. and are displayed on the reservation list display area 46 (there is also a case). Thereby, a user's PC 106 CPU120 performs connection processing to the Internet 103, and performs the access demand of the Web page of the "my channel" corresponding to the user concerned

to the live casting server 150 (step Sb10). Thus, although the function realized by the above-mentioned application program can perform the access demand of the Web page for performing distribution reservation in a user PC 106, the access demand of the Web page concerned can also be performed by inputting URL suitably. The access demand of the homepage which inputs URL and is specifically shown in drawing 13 can be performed, the input of user ID and a password can be performed, it can log in, and the access demand of a Web page can be performed by actuation of clicking the link carbon button of a "my channel."

[0118] Thus, if a user PC 106 performs the access demand of the Web page of a "my channel" to the live casting server 150, a Web page will be transmitted to a user PC 106 through the Internet 103 from the live casting server 150 (step Sb11). The user PC 106 who received the transmitted Web page displays the Web page concerned on the browser display screen 44 (step Sb12).

[0119] Here, drawing 26 shows the Web page of the "my channel" displayed on the browser display screen 44. The reservation list 250 which is the list of the reservation which the user is performing in this display screen to the current live casting server 150 as shown in this drawing, The link carbon button 251 for jumping to a Web page for a user checking the number of viewers of the program distributed in the past etc., The link carbon button 252 for jumping to the Web page for changing the information file for registration of the user concerned (referring to drawing 20) registered into the user database 152 is displayed. Moreover, description explaining the cancellation approach and the modification approach of reservation is displayed, with this personal casting service, when changing the contents of reservation, such as a channel and time, it is necessary to perform the procedure which once cancels reservation and processes distribution reservation again, and that is described. On the other hand, it can change now about information other than channels, such as a title name and an outline, and time, without performing reservation cancellation.

[0120] "cancellation" carbon button clicked when directing the status item as which the condition that only one the case of a graphic display -- reservation -- was referred to as whether "reservation time", a "channel", a "title", and this reservation are in the condition of "the waiting for reconfirmation" or to be in "the condition of having reconfirmed" is displayed, and reservation cancellation for every reservation is displayed on the reservation list 250.

[0121] Although "a reconfirmed display" will be made when "the waiting for reconfirmation" was displayed on the item of the status like [when reconfirmation is not performed about the reservation concerned] a graphic display here, and the page concerned is displayed after reconfirmation was performed In the case of "the waiting for reconfirmation", a click of this transmits the access demand of the screen for reconfirmation through the Internet 103 at the live casting server 150 by CPU120. The live casting server 150 transmits the Web page for reconfirmation to a user PC 106 through the Internet 103 according to this demand, and a screen display as shown in drawing 27 is made by the user PC 106.

[0122] As shown in this drawing, the content of the items, such as the "user ID" set up about the reservation concerned, a "channel", "reservation time", "open level", a "title", a "genre", "electronic mail disclosure", "Web disclosure", a "password", a "friend list", an "outline", and a "detail", is displayed on the screen for reconfirmation. Moreover, the column which inputs Reservation ID, and the message to which it urges reconfirming by inputting Reservation ID into a user are displayed on this display screen.

[0123] When reconfirming, a user inputs the reservation ID included in the electronic mail transmitted from the live casting server 150 in the reservation procedure mentioned above, and clicks the reconfirmation carbon button 261. On the other hand, in returning to the screen of a my channel on which the reservation-list 250 grade (refer to drawing 26) was displayed, it clicks the returning carbon button 262.

[0124] The message which urges performing Response PC, i.e., live distribution, with PC which reconfirms by setting automatically the setting-out information for establishing the communication link connection between the streaming servers 102 in case live distribution is performed as PC to it here when the reconfirmation carbon button 261 is clicked in the display screen for reconfirmation shown in drawing 27 is displayed.

[0125] If the above-mentioned reconfirmation carbon button 261 is clicked, a user's PC 106 CPU120

will transmit the purport which had activation directions of reconfirmation by the user to the live casting server 150 through the Internet 103 (step Sb13).

[0126] The live casting server 150 which received the reconfirmation activation directions transmitted by the user PC 106 as mentioned above creates the reservation setting-out information file shown in drawing 28 about this reservation with reference to the reservation database 151 or the user database 152 (step Sb14). Here, when the live casting server 150 becomes 6 hours before the distribution start time based on the reservation among the information about each reservation registered into the reservation database 151, it eliminates the data about the reservation from the reservation database 151, and it cancels the reservation concerned. That is, the data about the reservation in the reservation database 151 will be eliminated after the event of 6-hour before of the distribution start time based on a certain reservation passing. Therefore, when the activation directions of reconfirmation mentioned above after 6 hours before distribution start time are received by the live casting server 150, even if it refers to the reservation database 151, the data about the reservation concerned will be registered. In this case, the live casting server 150 "since reconfirmation was not performed, reservation was canceled. In reserving, please perform a distribution reservation procedure again. The Web page for displaying messages, such as ", is transmitted to a user PC 106.

[0127] On the other hand, when the live casting server 150 receives reconfirmation activation directions 6 hours before distribution start time, reservation setting-out information is created by the live casting server 150. As shown in drawing 28, information, such as "Reservation ID", "live distribution reservation time", "server connectable time amount", "the telephone number for connection", "connection place server information", "distribution demand place address information", a "transmission band", a "title", an "outline", "open level", "friend list address information", and a "distribution demand password", is included in the reservation setting-out information file created by the live casting server 150.

[0128] The reservation ID created about the reservation concerned mentioned above is described by "Reservation ID", and the distribution start time and end time which were reserved are described by "live distribution reservation time." Information to which the time zone which permits connection to the streaming server 102 is described in order that "server connectable time of day" may perform live distribution, connection of the streaming server 102 is permitted to from three quotas of distribution start time in this example, and connection until after [of distribution end time] 3 minutes is permitted is described.

[0129] The telephone number of the access port of the network 108 only for server connection for connecting with the streaming server 102 is described by "the telephone number for connection", and the telephone number of the access port for every telecommunications service operator of plurality (a graphic display is four) is described by this example. A user chooses one of telecommunications service operators as processing which is mentioned later and which makes connection with the streaming server 102 actually, and processing which carries out call origination to the telephone number of the selected access port for telecommunications service operators is carried out to it.

[0130] It is the item according to the channel chosen by this reservation determined, and the information on "a class of server", "Server Name", a "connection port", "stream pass to a server", etc. which are connected in case the channel concerned is used is described by "connection place server information." When the communication link connection between a user PC 106 and the access port of the network 108 only for server connection is established, connection processing for using the channel which the streaming server 102 reserved based on the content of description of this "connection place server information" will be performed.

[0131] The URL information used in order to connect "distribution demand place address information" to the streaming server 102, when a client PC 107 requires stream distribution of the contents which a user PC 106 transmits to the streaming server 102 is described. What is necessary is just to connect a client PC 107 to the streaming server 102 through the Internet 103 using the URL concerned, when performing the distribution demand of contents.

[0132] The information determined as a "transmission band" according to the reserved channel is

described, and the information on the transmission band beforehand set as reservation channels, such as 64kbps and 28.8kbps(es), is described. The content registered at the time of reservation, respectively is described by a "title", an "outline", and "open level" (refer to drawing 22 and drawing 23). The e-mail address registered at the time of reservation is described by "friend list address information."

[0133] Although the password information registered into the "distribution demand password" at the time of reservation is described, since a distribution requestor side can perform a distribution demand, without performing a password input when "open level" is "Public", the information on a "distribution demand password" is not included in a reservation setting-out information file in this case.

[0134] Thus, the information on the telephone number for establishing the communication link connection with Reservation ID and the streaming server 102 which are used for the authentication in the case of the connection of the streaming server 102 mentioned later, the connection port of a server, etc. is included in the reservation setting-out information file created by the live casting server 150. The command information which directs the message indicator which notifies that the command information for writing in automatically and making it incorporate and the automatic incorporation concerned ended the reservation setting-out information file concerned normally to the predetermined field created on a user's PC 106 hard disk 123, or the reservation setting-out information file went wrong on this occasion although transmitted to a user PC 106 through the Internet 103 from the live casting server 150 is included. Thus, what is necessary is just to use the technique of "ActiveX" (trademark of Microsoft Corp.) as a technique of incorporating automatically the file which transmitted from the live casting server 150 which is a distribution side to the user PC 106 of a receiving side. To use this technique, a user PC 106 needs to use "Internet Explorer (Microsoft Corp.)" which can use the above "ActiveX" as browser software.

[0135] The live casting server 150 which created the reservation setting-out information file containing above various data and commands by text data etc. enciphers this file using cipher systems, such as DES (Data Encryption Standard), and transmits the encryption file concerned to a user PC 106 through the Internet 103 with the Web page which displays the completion screen of reconfirmation (step Sb15).

[0136] When the reservation setting-out information file and Web page which were enciphered from the live casting server 150 as mentioned above are transmitted, 120 of a user PC 106 A reservation setting-out information file is decoded using the technique of "ActiveX" which received and mentioned this above. While incorporating automatically to the predetermined field of a hard disk 123 according to the command contained in the file concerned (step Sb16), the completion screen of reconfirmation is displayed on the browser display screen 44 (step Sb17). Therefore, the program which decodes a code which was mentioned above is stored in the user PC 106, and this program is performed at the time of decode of the above-mentioned reservation setting-out information file. Moreover, in case CPU120 writes a reservation setting-out information file in a predetermined field, a program which is enciphered and written in with predetermined cipher systems (DES etc.) is stored in the user PC 106, and reservation setting-out information will be enciphered and saved by this program execution. Therefore, the user is usually made as [said / it / that the content of the reservation setting-out information file concerned incorporated automatically was displayed, and it referred to]. It can reduce that unjust access will be performed to the access port of the network 108 only for server connection by this for it being controlled that the access port number of the network 108 only for server connection is carelessly known by many men, and blocking the service concerned etc.

[0137] Here, drawing 29 shows the completion screen of reconfirmation displayed on the browser display screen 44 as mentioned above. As shown in this drawing, the current time by the side of a service provider and a user's PC 106 time of day are displayed on this screen. Here, the time of day by the side of a service provider is the time information acquired from the NTP server 153, in case the live casting server 150 transmits the Web page concerned. On the other hand, current time with the clock which a user PC 106 has is displayed on a user's PC 106 time of day. And a user's PC 106 CPU120 computes the difference (minute unit) of such time of day, and when there is a time-of-day gap, it displays the message of the purport which has a gap like a graphic display. In addition, although a user's PC 106 user is notified of the time-of-day gap by the side of a service provider in this way and you may

make it urge caution. The time correction program which amends a user's PC 106 time of day automatically based on the time information by the side of the service provider transmitted to the user PC 106 with the Web page as mentioned above is made to store. When a user PC 106 receives the Web page of the completion screen of reconfirmation as mentioned above, you may make it CPU120 amend a user's PC 106 time of day by performing a time correction program according to the time of day by the side of a service provider. This becomes that in which the time of day by the side of a service provider and the time of day by the side of a user PC 106 were common, and it becomes possible to advance smoothly service as which the accuracy of the time amount of live distribution is required.

[0138] Moreover, the special case matter in the case of connecting with the completion screen of reconfirmation in the network 108 only for server connection using a dial-up router is described. In the user PC 106, in order to perform live distribution, when performing communication link connection processing with the streaming server 102, it is set up so that call origination may be automatically carried out to the access telephone number to the access port of the network 108 only for server connection described by the reservation setting-out information file mentioned above (it mentions later for details). Thus, communication link connection processing can be performed automatically, without performing troublesome alter operation called the input of the telephone number in a user when CPU120 is made to perform the program which carries out call origination automatically. However, when a user PC 106 is connected to a network through a dial-up router, it is necessary to set up the information for connecting with the network 108 only for server connection through a dial-up router. Therefore, since processing in which call origination is automatically carried out based on the telephone number described by the reservation setting-out information file cannot be performed, a user needs to set up the telephone number of an access port etc. manually. The above-mentioned special case matter is the description which needs to perform manual setting and which carried out thing consideration, when using such a dial-up router, and the access port number for having a user do manual setting in this case, a login ID (reservation ID in this case), and a password are displayed. In addition, only in via ISDN (Integrated Services Digital Network), the connection using a dial-up router is permitted in the example of a graphic display, but it is not limited to this.

[0139] If the display of the above-mentioned reconfirmation screen is checked by the user and the "O.K." carbon button 291 is clicked by him, the information which shows the purport by which the "O.K." carbon button 291 was clicked will be transmitted to the live casting server 150 through the Internet 103 by CPU120 (step Sb18), and the processing about the reconfirmation by the side of a user will be completed. On the other hand, the "O.K." carbon button 291 is clicked and the electronic mail which notifies that the live casting server 150 which received that has live distribution in the e-mail address registered into the "friend list" about the reservation concerned with reference to the reservation database 151 is transmitted (step Sb19). Here, drawing 30 shows the content displayed on the display screen of the PC, when the electronic mail concerned is opened. As shown in this drawing, when "live distribution time", a "title", an "outline", "URL of a distribution demand place" (refer to "distribution demand place address information" of drawing 28), and open level are "Password" and "Secret", the information on the "password" (refer to the "distribution demand password" of drawing 28) etc. for a distribution demand is displayed on this electronic mail. Thereby, a user's PC 106 user can notify the information for receiving live distribution in the friend automatically, if e-mail addresses, such as a friend who wants to show live distribution at the time of reservation, are registered. Therefore, the complicated activity of the user who performs live distribution telling the information for receiving live distribution by telephone, or creating an electronic mail including the information concerned becomes unnecessary.

[0140] In addition, in the above-mentioned explanation, although it is made to perform transmitting processing of the above-mentioned electronic mail (refer to drawing 30) to the e-mail address registered into the "friend list" after the completion of reconfirmation, when the reservation registration processing (step Sb8 of drawing 21) by the reservation database 151 based on the file wishing reservation from a user ends, it may be made for the timing of the above-mentioned electronic-mail transmission by the live casting server 150 to carry out. Thus, it is at the reservation registration processing termination event,

and if an electronic mail is transmitted, those who have an e-mail address can know that there is live distribution, when earlier. Moreover, it is in this case at the completion event of reconfirmation, and may be made to perform same electronic mail transmitting processing again.

[0141] Moreover, while performing electronic mail transmission as mentioned above, after the processing about reconfirmation is completed, the reservation concerned should be approved, and the live casting server 150 rewrites the accounting flag information on the reservation database 151 about this reservation "for it to be good", and performs accounting about the reservation concerned. Here, the accounting amount of money will be computed based on the toll beforehand set up for every channel as mentioned above. For example, when the reservation which uses six coma of channels to which the 100 yen toll is set with one coma (10 minutes) is approved, 600 yen accounting will be made about the reservation concerned. However, actual accounting is performed after it is checked that the streaming server 102 is operating normally at live distribution that day.

[0142] In addition, in the above-mentioned explanation, although the case where the user PC 106 who stores the program which enciphers the reservation setting-out information file transmitted from the live casting server 150, and is stored automatically was used was explained, the above automatic incorporation cannot be performed with PC which does not store such a program. In such a case, he is trying to incorporate a reservation setting-out information file to the PC side by the following technique. First, in the case of PC which does not store the above programs, automatic incorporation cannot be performed, but what automatic incorporation went wrong is displayed on the display screen of the PC. The message which directs in addition to the message which notifies having failed to return to a my channel (to refer to drawing 26) again, to click the waiting for reconfirmation, and to perform the access demand of the screen for reconfirmation again is displayed on the display screen of having failed. On the other hand, after transmitting the Web page of the completion screen of reconfirmation mentioned above to a user PC 106 O.K.] is not transmitted. The demand of the screen for reconfirmation from a user PC 106 The reconfirmation check from a user PC 106 "the carrier beam live casting server 150 It judges with the user PC 106 having failed in automatic incorporation of a reservation setting-out information file, and the Web page for downloading a reservation setting-out information file is transmitted to a user PC 106 through the Internet 103. Consequently, the Dow-Jones load carbon button of a reservation setting-out information file is displayed on the display screen by the side of PC, and download of a reservation setting-out information file is performed to it by clicking the carbon button concerned.

[0143] Although what was explained above is the flow of the distribution reservation processing actuation from the demand of reservation to the reservation formation by the completion of reconfirmation, also after reconfirmation is completed in this way, about information, such as a genre and an outline, changing is possible, and it is possible also in canceling reservation after the completion of reconfirmation (in this case, since the above-mentioned accounting flag information is "good", accounting is performed.). Hereafter, the processing actuation in the case of performing such modification and cancellation is explained, referring to the content of a display of the browser display screen 44 displayed on a user's PC 106 display 124.

[0144] First, in performing modification or cancellation of reconfirmed reservation, it performs actuation for performing the access demand of the Web page corresponding to a "my channel" like the time of performing reconfirmation mentioned above. Thereby, a user's PC 106 CPU120 performs connection processing to the Internet 103, and performs the access demand of the Web page of the "my channel" corresponding to the user concerned to the live casting server 150.

[0145] Thus, if a user PC 106 performs the access demand of the Web page of a "my channel" to the live casting server 150, a Web page will be transmitted to a user PC 106 through the Internet 103 from the live casting server 150. The user PC 106 who received the transmitted Web page displays the Web page concerned on the browser display screen 44.

[0146] Here, drawing 31 shows the Web page of the "my channel" displayed on the browser display screen 44. [finishing / reconfirmation] If the display screen of the "my channel" shown in this drawing is compared with the display screen (refer to drawing 26) of the "my channel" of the waiting for reconfirmation, in the screen [finishing / reconfirmation], it differs the point displayed "finishing

[reconfirmation]" on the status item of a reservation list 250, and in that the link carbon button 310 "modification" is displayed. [finishing / reconfirmation]

[0147] When changing, the link carbon button 310 of the "modification" concerned will be clicked. If the link carbon button 310 of "modification" is clicked, a user's PC 106 CPU120 will transmit through the Internet 103 that the link carbon button of "modification" was clicked to the live casting server 150. Thereby, the screen which the live casting server 150 transmits the Web page for modification to a user PC 106 through the Internet 103, consequently is shown in a user's PC 106 browser display screen 44 at drawing 32 is displayed.

[0148] The content of reservation by which current setting out is carried out is displayed on the screen for modification, it can change among these contents of a display about items, such as a "genre", "electronic-mail disclosure", "Web disclosure", a "password", an "outline", and a "detail", and it is made to differ from the items (reservation time etc.) which cannot change the foreground color of the item which can be changed in the case of this display, as shown in this drawing.

[0149] About the item which wishes to change, a user overwrites the content after changing into the content of setting out by which it is indicated by current, and clicks the updating carbon button 321. In addition, in not changing, it clicks the returning carbon button 322.

[0150] And if the updating carbon button 321 is clicked by actuation of a user, a user's PC 106 CPU120 will create the information file of the content of modification concerned, and will transmit this to the live casting server 150 through the Internet 103. Thereby, the live casting server 150 transmits the Web page of the completion screen of modification to a user PC 106 through the Internet 103 while updating the content of registration of the reservation database 151 based on the information file of the content of modification concerned. Consequently, the screen shown in drawing 33 is displayed on a user's PC 106 browser display screen 44.

[0151] As shown in this drawing, in addition to the message which shows that modification was received, the special case matter at the time of a mutual time-of-day gap etc. being displayed as service provider side time of day and the time of day by the side of a user PC 106, and using a dial-up router is displayed on the completion screen of modification like the completion screen of reconfirmation (refer to drawing 30) mentioned above. Here, if the "O.K." carbon button 331 is clicked, modification will be completed and it will return to the screen of the "my channel" shown in drawing 31 .

[0152] Thus, if reservation is changed, the live casting server 150 will transmit the electronic mail containing that reservation was changed and messages, such as the content of modification, to the e-mail address registered into the friend list mentioned above. Even if it does not do the activity of telling by telephone the content of reservation of live distribution of a user's PC 106 user having been changed by this, or creating the electronic mail containing a message to that effect, those who have the e-mail address of the friend list concerned can be automatically told about the content of a reservation change of live distribution.

[0153] Next, the case where reservation is canceled is explained. Also in this case, actuation for performing the access demand of the Web page corresponding to a "my channel" is performed like the reconfirmation mentioned above or the case where it changes. The "my channel" screen [finishing / reconfirmation] which this indicates at drawing 31 mentioned above to the browser display screen 44 is displayed.

[0154] When canceling reservation, a user will click the "revocatory" link carbon button 311. If the "revocatory" link carbon button 311 is clicked, a user's PC 106 CPU120 will transmit through the Internet 103 that the "revocatory" link carbon button was clicked to the live casting server 150. Thereby, the screen for cancellation which the live casting server 150 transmits the Web page for cancellation to a user PC 106 through the Internet 103, consequently is shown in a user's PC 106 browser display screen 44 at drawing 34 is displayed.

[0155] As shown in this drawing, while the content of reservation by which current setting out is carried out is displayed, the "reservation cancellation" carbon button 341 and the carbon button 342 "returning" are displayed on the screen for cancellation. Here, a user clicks the carbon button 342 clicks the "reservation cancellation" carbon button 341 in canceling reservation, and "returns" in not canceling.

[0156] And if the "reservation cancellation" carbon button 341 is clicked by actuation of a user, a user's PC 106 CPU120 will transmit the purport which cancels this reservation to the live casting server 150 through the Internet 103. Thereby, the live casting server 150 transmits the Web page of the completion screen of cancellation to a user PC 106 through the Internet 103 while eliminating the content of registration of the reservation database 151 about this reservation. Consequently, as shown in drawing 35, the message which notifies having been canceled is displayed on a user's PC 106 browser display screen 44. Here, if the "O.K." carbon button 343 is clicked, cancellation will be completed and it will return to the screen of the "my channel" shown in drawing 3131.

[0157] Thus, if reservation is canceled, the live casting server 150 will transmit the electronic mail containing the message of the purport that reservation was canceled and live distribution was stopped to the e-mail address registered into the friend list mentioned above. Even if a user's PC 106 user does not do by this the activity of telling by telephone live distribution having been stopped, or creating the electronic mail containing a message to that effect, those who have the e-mail address of the friend list concerned can be told about live distribution having been stopped automatically.

[0158] Moreover, when a user wants to check the content of reservation after reconfirmation is performed, as mentioned above, the "finishing [reconfirmation]" carbon button of the screen shown in drawing 31 is clicked. A click of a "finishing [reconfirmation]" carbon button transmits that to the live casting server 150 through the Internet 103 by a user's PC 106 CPU120. Thereby, the live casting server 150 transmits the Web page [finishing / reconfirmation] for a reservation check to a user PC 106 through the Internet 103. Consequently, as shown in drawing 36, the content of reservation set up now, the special case matter in the case of using a dial-up router, the carbon button 361 "which re-registers PC connection setting out", and the carbon button 362 which directs to return to a "my channel" screen and "returning" are displayed on a user's PC 106 browser display screen 44.

[0159] Here, a click of the carbon button 361 "which re-registers PC connection setting out" transmits that to the live casting server 150 through the Internet 103 by a user's PC 106 CPU120. Thereby, the live casting server 150 transmits again a reservation setting-out information file (refer to drawing 29) to a user PC 106 through 103. Consequently, in a user PC 106, automatic incorporation processing of a reservation setting-out information file is performed. When changing PC which performs for example, live distribution from PC which reconfirmed, what is necessary is just made to perform such resending processing of a reservation setting-out information file.

[0160] B-3. When the distribution reservation which carries out live distribution **** and includes reconfirmation [like] is completed and the reserved live distribution start time concerned comes, a user's PC 106 user will connect with the streaming server 102 through the network 108 only for server connection, and will perform live distribution of contents. And a client PC 107 will require stream distribution of these contents, and will receive contents offer.

[0161] It explains below the contents transmission to a streaming server from the B-3-1. user PC, referring to drawing 37 which showed the sequence flow chart of the processing actuation concerned about processing actuation of the user PC 106 at the time of transmitting contents to the streaming server 102 from the user PC 106 in live distribution, the network 108 only for server connection, a database server 155 (refer to drawing 12), and the streaming server 102.

[0162] Since the connection with the streaming server 102 from five quotas is permitted rather than the reserved live distribution start time when performing live distribution, the processing for establishing the communication link connection between a user PC 106 and the streaming server 102 will be started after this time amount. The user prepares contents distribution before the live distribution start time concerned. Here, as preparation of contents distribution, there are decision of the camera station of the digital video camera 129 (refer to drawing 3), setting-out processing (refer to drawing 10 and drawing 11) of the effect in the live distribution mode based on the design for contents to distribute, etc.

[0163] Before the predetermined time of the live distribution start time which the user PC 106 in this operation gestalt reserved (For example, ten quotas) etc., as the program for displaying the message of "being live distribution start time soon", and notifying a user is stored and it is shown in drawing 37. If it comes before the above-mentioned predetermined time, when a user's PC 106 CPU120 performs this

program, the message of "being live distribution start time soon" will be displayed on a display 124 (step Sc 1). Thereby, it can reduce now that a user will forget live distribution start time. Here, when it is not the live distribution mode in the application which mentioned the user PC 106 above, CPU120 performs the application program concerned automatically, and chooses the live distribution mode in the application concerned automatically, and displays the screen (refer to drawing 9 (a)) in "live distribution mode" on a display 124.

[0164] Then, in a user PC 106, if the time of day (five quotas of start time) when the connection initiation to the streaming server 102 mentioned above is permitted comes, CPU120 will start automatically communication link connection processing with the streaming server 102 by performing a connection processing program. You may automate thoroughly, a user inputs only directions of final connection initiation, and communication link connection processing started here may be automatically performed considering this input as a trigger.

[0165] Here, the reservation setting-out information file (refer to the drawing 2929) enciphered and memorized by predetermined registry is decoded, and the following communication link connection processings are performed based on the information described by the item of "Reservation ID", and "server connectable time amount" of this file, "the telephone number for connection", and "the server information for connection" in processing by CPU 120 according to the above-mentioned communication link connection processing program.

[0166] First, when the connectable start time shown in "server connectable time amount" comes, the communication link connection processing concerned is started, a telecommunications service operator's access port telephone number beforehand set up by the user is acquired by referring to "the telephone number for connection" of a reservation setting-out information file, and processing which carries out call origination to the telephone number concerned is performed. And from the access server of the network 108 only for server connection, Reservation ID is transmitted and communication link connection is made (step Sc 2). Thus, since processing which carries out call origination automatically is performed, a user does not need to operate the input of the telephone number etc. Since it becomes very complicated [especially alter operation, such as information for which using a user PC 106 with a gestalt as it indicated at drawing 3 (b) and drawing 3 (c) in live distribution that mentioned above used keyboard 126a,], a comfortable contents creation environment can be offered by the user because it is made to perform processing which carries out call origination automatically as mentioned above.

[0167] In order to attest whether the access server of the network 108 only for server connection belongs to the user to whom the user PC 106 who has demanded connection of an access port as mentioned above has just reservation, the transmitted reservation ID is transmitted to the database server 155 of the server activity reservation management center 101 (step Sc 3). Thus, authentication processing is performed by checking whether the database server 155 which received the reservation ID transmitted from the access server of the network 108 only for server connection is registered into the reservation database 151 in the time zone which this reservation ID starts from current (step Sc 4). The user PC 106 who has transmitted this reservation ID when the transmitted reservation ID is registered into the reservation database 151 here judges that it belongs to the user who has just reservation, and when the transmitted reservation ID is not registered into the reservation database 151 in that time zone, he judges that it is not what has just reservation.

[0168] In authentication processing here, although Reservation ID is used as mentioned above, thereby, the following effectiveness is acquired. For example, when attesting reservation using the user ID and the password which the member of the service concerned has, user ID and a password are just, and even if it is checked that what has been accessed is a member, it cannot distinguish whether it is that in which the member has reservation of the time zone. Therefore, in authentication processing, after attesting that a user is a member, it is necessary to check the content of registration of reservation further and to confirm whether the member specified by the user ID is reserving in the time zone, and authentication processing is complicated. on the other hand, since it can distinguish [whether you are a just subscriber and] by simple authentication processing check whether this reservation ID is registered as reservation of the time zone corresponding to the time amount which authentication over user ID did not need to be

carried out since it was the information which only a user can know, and that reservation ID has accessed if the reservation ID used for authentication only to a certain reservation is used as mentioned above, it is -- **.

[0169] The database server 155 which performed authentication processing using Reservation ID as mentioned above transmits this authentication result to the access server of the network 108 only for server connection (step Sc 5).

[0170] When the access server of the network 108 only for server connection says that the authentication result from the above-mentioned database server 155 belongs to a just subscriber, connection between a user PC 106 and the streaming server 102 is permitted, PPP connection of both is made by this, and the communication link connection between both is established (step Sc 6). On the other hand, in saying that the above-mentioned authentication result is not a just subscriber, the access server of the network 108 only for server connection does not permit connection with the streaming server 102, but cuts the call from a user PC 106 promptly. Thus, when it is judged that it is a call from an inaccurate thing, he is trying to secure the circuit for a just subscriber by cutting the call promptly.

[0171] If it connects with the streaming server 102 through the network 108 only for server connection as mentioned above, a user's PC 106 CPU120 will transmit Reservation ID to the streaming server 102, and will require live distribution (step Sc 7).

[0172] In order to attest whether it belongs to the user to whom the user PC 106 to whom the carrier beam streaming server 102 has given the live distribution demand for the live distribution demand from a user PC 106 has just reservation, the transmitted reservation ID is transmitted to the database server 155 of the server activity reservation management center 101 (step Sc 8). Thus, authentication processing is performed by checking whether the database server 155 which received the reservation ID transmitted from the streaming server 102 is registered into the reservation database 151 in the time zone which this reservation ID starts from current (step Sc 9). Authentication processing here is the same as that of the case where Reservation ID is transmitted from the access server of the network 108 only for server connection mentioned above.

[0173] The database server 155 which performed authentication processing using Reservation ID as mentioned above transmits this authentication result to the streaming server 102 (step Sc 10).

[0174] When saying that the authentication result from the above-mentioned database server 155 belongs to a just subscriber, the streaming server 102 permits the live distribution by the user PC 106, acquires the information (a reservation time zone, channel, etc.) about the reservation concerned from the reservation database 151, and controls live distribution based on this information while it transmits the purport to permit to a user PC 106 (step Sc 11). Thereby, a user's PC 106 CPU120 displays the message which notifies a user of live distribution having been permitted, and initiation of contents distribution is urged to it to a user. If such advice is received, live distribution initiation will be directed and a user will transmit the created dynamic-image data to the streaming server 102 through the network 108 only for server connection on real time while creating the dynamic-image data which operated suitably actuation dial 126b and manual operation button 126c, and started photography of the digital video camera 129, and carried out effect processing to the photoed image on real time (step Sc 12).

[0175] Thus, the streaming server 102 which received the dynamic-image data which are the contents transmitted by the user PC 106 carries out stream distribution to the client PC 107 with a demand of this. Under the present circumstances, if it is in the number of riding capacity of the channel which performs live distribution when "the open level" (reference, such as drawing 22) of the live distribution concerned is "Public", according to a distribution demand, stream distribution will be performed unconditionally. On the other hand, although stream distribution is performed to the client PC 107 which has carried out the distribution demand only to the client PC 107 which stimulates the input of a password and by which the input of a just password was made when "open level" is "Password" or "Secret", about the distribution demand between the streaming server 102 and a client PC 107, and processing actuation of stream distribution, it mentions later.

[0176] Thus, if live distribution is started, the streaming server 102 will transmit the time information by the side of the service provider acquired from the NTP server 153, and the information which shows the

number of the clients PC 107 which are viewing and listening to the live distribution concerned, that is, are demanding distribution of these contents to a user PC 106. Thereby, in the status window SW (refer to drawing 9 (a)) displayed on a user's PC 106 display 124, presenting of the remaining time information and the image size information which show the information and distribution elapsed time information which show that it is under broadcasting, the time information by the side of a service provider, the time information by the side of a user PC 106, the number information of viewers, reservation initiation end time, and the residual time of distribution, the transmission-speed information on distribution data, etc. is made. A user can know various information about the live distribution in a present progressive by referring to the display of this status window SW. Especially as an addresser of contents, it worries how many persons are viewing and listening to the contents concerned, and it also becomes reference of the channel selection at the time of performing live distribution next time (selection of the number of riding capacity). Therefore, it can be said that a viewer numeral is significant for a user as mentioned above.

[0177] Thus, when contents transmission to the streaming server 102 from a user PC 106 is performed and a user's PC 106 user terminates live distribution ahead of reservation end time (time of day by the side of a service provider), actuation dial 126b (refer to drawing 3) etc. is operated, and a selection decision of "distribution initiation / the termination" of GUI (refer to drawing 9 (b)) in live distribution mode is made. Thereby, a user's PC 106 CPU120 ends transmitting processing of contents, and cuts connection with the streaming server 102 (step Sc 13).

[0178] When the above processings are performed when a user ends contents transmission himself before reservation end time, but it becomes reservation end time and contents transmission to the streaming server 102 from a user PC 106 is performed on the other hand, the streaming server 102 ends the stream message distribution processing to the client PC 107 of the contents transmitted by the user PC 106, when it becomes reservation end time. Furthermore, when the time of day which ends the connection of a user PC 106 shown in "the server connectable time amount" (refer to drawing 29) mentioned above comes, communication link connection with a user PC 106 is cut compulsorily.

[0179] B-3-2. It is the detail of the contents transmitting processing to the streaming server 102 from the user PC 106 it is [whose] the addresser terminal at the time of live distribution which was explained more than stream distribution of the contents to Client PC from the streaming server, and the streaming server 102 will perform stream message distribution processing of the contents concerned to the client PC 107 which had the demand in response to the contents transmission from a user PC 106 in this way. It explains referring to the display screen of the client PC 107 which performs a distribution demand etc. about the processing actuation at the time of stream distribution of such contents. In addition, in the following explanation, "the open level" (refer to drawing 22) of the contents distribution concerned shall be "Password" or "Secret", and the user of this client PC 107 shall know the password for receiving contents offer.

[0180] When the client user of a client PC 107 performs the distribution demand of contents, a client user starts browser software, after supplying a power source to a client PC 107. And URL for a client user to identify the top page of the Web page of the live casting server 150 in a client PC 107 is inputted, and, as for CPU of a client PC 107, this performs the access demand of the Web page concerned to the live casting server 150 through the Internet 103. The screen which the top page of a Web page is transmitted through the Internet 103 from the live casting server 150, consequently is shown in the display screen of a client PC 107 by this at drawing 13 is displayed.

[0181] When receiving contents distribution, a client user will click "today's live" (refer to drawing 15) or the link carbon button a "program guide" (refer to drawing 17). When a "program guide" is clicked, the present date on the calender displayed on the screen further shown in drawing 17 is clicked.

Thereby, as shown in drawing 15 , the program distributed on that day is displayed. And a client user clicks the link carbon button of the "title" of a program which performs a distribution demand out of the program currently displayed.

[0182] Thus, if the link carbon button of a "title" is clicked, CPU of a client PC 107 will transmit the access demand of the Web page which displays the detailed information of the "title" concerned to the live casting server 150 through the Internet 103. Thereby, the live casting server 150 transmits the Web

page as which the detailed information of the specified live program was displayed to a client PC 107 through the Internet 103. Consequently, the screen shown in drawing 16 will be displayed on the display screen of a client PC 107.

[0183] Although "playback" carbon button 175 will be clicked while a client user enters the password for obtaining distribution authorization in the display screen shown in drawing 16, when requiring distribution of the program as which this detailed information was displayed When the client PC 107 does not store real-time playback software, before clicking "playback" carbon button 175, the "playback software" carbon button 176 is clicked and playback software is downloaded beforehand.

[0184] And if a password is entered and "playback" carbon button 175 is clicked, CPU of a client PC 107 will transmit the entered password and a distribution demand to the streaming server 102 through the Internet 103. By transmitting the transmitted password to a database server 155, a database server 155 performs authentication processing whether the password transmitted by referring to the reservation database 151 is just, and the streaming server 102 transmits an authentication result to the streaming server 102.

[0185] The streaming server 102 distinguishes whether based on the number of riding capacity beforehand set as the channel currently used for the contents distribution concerned, distribution to the client PC 107 concerned is performed, when the above-mentioned authentication result is what is judged to be a just password. When current, and the number and the above-mentioned number of riding capacity of the client PC 107 which is performing distribution of the contents concerned are specifically compared and contents distribution has already been performed to the client PC 107 of the number of riding capacity, distribution beyond it is not performed. That is, when there is a distribution demand and contents distribution is being performed to the client PC 107 of the number of riding capacity, the distribution demand is not answered.

[0186] On the other hand, when the number of the clients PC 107 of the distribution place of the contents in the event of there being a distribution demand is under the number of riding capacity, it supposes that it distributes, distribution to the client PC 107 demanded in this case is permitted, and stream distribution of the contents to the client PC 107 concerned is performed from the streaming server 102. Thus, if stream distribution is started, as shown in the display screen of a client PC 107 at drawing 38, the repeat display screen 390 of the above-mentioned playback software will be displayed on the detailed information display screen of a program, and the contents by which stream distribution was carried out will be reproduced by the repeat display screen 390 concerned on real time. Thus, the user of a client PC 107 can reproduce, view and listen to the contents by which live distribution is carried out on real time.

[0187] Moreover, the streaming server 102 has a distribution demand of the program concerned, counts serially the number of the clients PC 107 which are distributing actually, and transmits to the transmit terminal (the above-mentioned explanation the user PC 106) of contents as a result of [this] a count (i.e., the number information of viewers).

[0188] In addition, in the above-mentioned explanation, although the client PC 107 is made to give a distribution demand to the streaming server 102 through the Web page of the live casting server 150 When those who have the e-mail address set up above "a friend list" (R> drawing 22 2 reference) perform a distribution demand using a client PC 107 It may be made to perform actuation of inputting URL displayed on the "distribution demand place address information" of the electronic mail (refer to drawing 30) transmitted from the live casting server 150 as mentioned above, or clicking URL currently displayed. If such actuation is performed, CPU of a client PC 107 will start the connection processing to the connection place 102 specified as the URL concerned, i.e., a streaming server, and, thereby, can perform a distribution demand to the streaming server 102.

[0189] C. Various deformation which it is not limited to the operation gestalt which is a modification, and which mentioned this invention above, and is illustrated below is possible.

[0190] (Modification 1) Although the streaming server 102 was performing processing which carries out stream distribution of the contents transmitted by the user PC 106 to the client PC 107 with a demand in the operation gestalt mentioned above While performing the stream message distribution processing

concerned, the contents transmitted by the user PC 106 are stored in media, such as a hard disk, and you may enable it to offer re-broadcast service of distributing this as a program on demand. In this case, what is necessary is to carry to the Web page (to refer to drawing 15) of "today's program" which mentioned the re-broadcast program concerned above, and just to distribute these contents to the client PC 107 with a demand.

[0191] Moreover, although it transmits to the streaming server 102 in the operation gestalt mentioned above by making into contents the dynamic-image data which a user's PC 106 digital video camera 129 photoed on real time and contents distribution is performed. The user stores in the hard disk 123 beforehand the contents created using the user PC 106 grade, and it transmits to the distribution time amount which reserved these contents at the streaming server 102, and may be made to perform contents distribution. Moreover, the contents concerned may be stored in a user's PC 106 hard disk 123 in case contents, such as photoed dynamic-image data, are transmitted to the streaming server 102, in order to perform contents transmission on real time like the above-mentioned operation gestalt using a user PC 106. And live distribution is reserved again, and it transmits to the streaming server 102 from a user PC 106 again by considering the stored contents as a re-broadcast program, and may be made to perform contents distribution.

[0192] (Modification 2) In the operation gestalt mentioned above, although the streaming server 102 was performing processing which carries out stream distribution of the contents transmitted by the user PC 106 to the client PC 107 with a demand, again As opposed to the client PC 107 grade which stores the contents transmitted by the user PC 106 in media, such as a hard disk, and had the demand while performing the stream message distribution processing concerned. These contents are written in various package media with well-known CD-ROM (Compact Disc-Read Only Memory), DVD-ROM (Digital Versatile Disc-Read Only Memory), etc. It may be made to offer service of delivering to the user who demanded this. According to such service, it becomes possible to require delivery of the contents which view and listen to the contents by which live distribution is carried out and by which the client user of a client PC 107 was written in package media about favorite contents. Here, since the network 108 only for server connection is used for the communication path of the user PC 106 and the streaming server 102 which are the master station of contents as mentioned above, it can secure sufficient transmission band. On the other hand, the communication path between the streaming server 102 and a client PC 107 has a high possibility of it not restricting sufficient data transmission band being securable, but receiving constraint of a transmission band in order to use the Internet 103. It is necessary to make small transmission speed of the stream data distributed to a client PC 107, and degradation of the playback image quality of the contents in a client PC 107 etc. will arise in this case by constraint of such a transmission band. With the above-mentioned service, the want of wanting to view and listen by the image reproduction of high quality can be met about the contents included in mind. That is, if the above-mentioned service is used, since the contents data which wrote the contents transmitted to the streaming server 102 from the user PC 106 in package media as it was, and were written in this are reproducible using a client PC 107, the client user can view and listen to the contents concerned in quality equivalent to the contents transmitted to the streaming server 102 from the user PC 106. The client which receives offer of the contents recorded on such package media carries out the repeat display of the contents to a television screen etc. using the player equipment (except PC is sufficient) which has the function which can carry out the repeat display of the contents stored in the package media concerned, and you may make it view and listen to them.

[0193] (Modification 3) In the operation gestalt mentioned above, although performing live distribution only in the time zone which a user's PC 106 user reserved beforehand is permitted, again While live distribution based on reservation is performed, when the streaming server 102 refers to the reservation database 151 The reservation status after the reservation time amount termination concerned of a channel current in use is checked. As long as it seems that it is vacant, you may make it transmit the message to the effect "extension of reservation is possible for the time of OO" etc., from the streaming server 102 to a user PC 106 before the predetermined time of reservation end time (for example, ten quotas). And this message should just be displayed on the status window SW (refer to drawing 9 (a) of

the user PC 106 who received this message etc. Under the present circumstances, if an extended carbon button is displayed on the status window SW and this extended carbon button is clicked, the purport to which a user's PC 106 CPU120 extends will be transmitted to the streaming server 102. The streaming server 102 which received this permits extension. If such extended service is offered, while the want of wanting to extend to the user of the user PC 106 who is a distribution person can be met, the effectiveness that the channel of the streaming server 102 is efficiently utilizable also as a service provider is acquired.

[0194] In the operation gestalt mentioned above again (Modification 4) The case where the program for performing distribution reservation processing is beforehand installed on the hard disk of the live casting server 150, Although the case where the program for performing various processings in the case of distribution reservation and various processings in the case of live distribution was beforehand installed on a user's PC 106 hard disk 123 was described CD-ROM in which, as for this invention, not only this but the contents distribution program was stored (Compact Disc-Read Only Memory), The various above-mentioned programs may be installed by reproducing the program storing medium which becomes by package media, such as DVD-ROM (Digital Versatile Disc-ReadOnly Memory). Moreover, the various above-mentioned programs may be installed by reproducing program storing media by which a program is stored temporarily or permanently, such as semiconductor memory and a magneto-optic disk.

[0195] As a means to store the various above-mentioned programs in these program storing media, may use a cable and radiocommunication media, such as a Local Area Network and digital satellite broadcasting service, various communication link interfaces, such as a router and a modem, are made to intervene, and you may make it store.

[0196] (Modification 5) Further, although the case where the Internet 103 was used as a network for performing distribution reservation between a user PC 106 and the live casting server 150 in the operation gestalt mentioned above was described, this invention may use other various networks built not only by this but by a cable or wireless.

[0197] Moreover, although he was trying to form the network 108 only for server connection with the operation gestalt mentioned above in order to connect a user PC 106 and the streaming server 102, you may make it connect both not only using this but using the Internet 103.

[0198] (Modification 6) Although he was trying to use the user PC 106 who built in the digital video camera 129 as an addresser terminal of live distribution in the operation gestalt mentioned above, you may make it use further what carried out the cable splicing of the digital video camera to the usual PC through IEEE(Institute of Electrical and Electronics Engineers) 1394 interface etc., and PC which made wireless connection of the digital video camera. Moreover, the portable telephone which connected the digital camera with the cable etc., and the portable telephone having a digital camera are replaced with a user PC 106, and you may make it use them.

[0199] The case where it is used hereafter, replacing the portable telephone having a digital camera with a user PC 106 is illustrated and explained.

[0200] In drawing 39, the base stations CS1-CS4 which are fixed radio stations, respectively are installed in the cel which showed the network system to which the portable telephone MS 3 with which 200 applied this invention as a whole is connected, and divided it into the magnitude of a request of the offer area of communication service.

[0201] In these base stations CS1-CS4, it is made as [make / by the code division multiple access standard called W-CDMA (Wideband-Code Division Multiple Access) / wireless connection of Personal Digital Assistants MS1 and MS2 or the digital portable telephones MS3 and MS4 with a camera which are ambulant radio stations], and is made as [carry out / using the frequency band of 2 [GHz] / with the data transfer rate of a maximum of 2 [Mbps] / to a high speed / data communication of the mass data].

[0202] Thus, Personal Digital Assistants MS1 and MS2 and the digital portable telephones MS3 and MS4 with a camera are made as [perform / varieties, such as not only a voice call but transmission and reception of an electronic mail, access of a simple homepage, transmission and reception of an image, etc., are attained to, and / data communication] by being made as [carry out / with a W-CDMA

method / to a high speed / data communication of the mass data].

[0203] Moreover, base stations CS1-CS4 are connected to the telephone network 104 through the wire circuit, and the Internet 103, many subscriber cable terminals which are not illustrated, a computer network, the network in an enterprise, etc. are connected to the telephone network 104 concerned.

[0204] The access server AS of an Internet Service Provider is connected to the telephone network 104, and the contents server TS which the Internet Service Provider concerned holds is connected to the access server AS concerned.

[0205] This contents server TS is made as [offer / contents, such as a simple homepage, / corresponding to the demand from a subscriber cable terminal, Personal Digital Assistants MS1 and MS2, and the digital portable telephones MS3 and MS4 with a camera / as a file of for example, a compact HTML (Hyper Text Markup Language) format]. This compact HTML is the subset of HTML, it leaves only the tag which can be reflected in the display of the limited size, and other parts are omitted. For example, in iMode (trademark) which is service of NTT DoCoMo, the alphabetic character attribute or color of a text which HTML for I modes is adopted, and this narrows down a function required for a cellular phone, and are using about 30 sorts of tags cannot be specified, but an image also has the limited conditions of the GIF file of 2 gradation being recommended. The file of the simple homepage perused with the personal digital assistant which has a limit in a viewing area or display capacity can be created by using HDML (handheld Device Markup Language) which is the description language used in WAP (Wireless Application Protocol) of such compact HTML or the protocol for mobile communication, WML (Wireless Markup Language), etc.

[0206] In this network system 200, the same server activity reservation management center 101 as the above-mentioned operation gestalt and the streaming server 102 are connected to the Internet 103, and it is made as [access / according to the protocol of TCP/IP (Transmission Control Protocol/Internet Protocol) / from a subscriber cable terminal Personal Digital Assistants MS1 and MS2, and the digital portable telephones MS3 and MS4 with a camera / it / to the server activity reservation management center 101 or the streaming server 102]. In addition, like the above-mentioned operation gestalt, in case contents distribution which used the streaming server 102 is performed, although it is made to perform contents transmission to the streaming server 102 through the network 108 only for server connection from the digital portable telephones MS3 and MS4 with a camera, it may be made to perform contents transmission by Internet 103 course in the example of a graphic display.

[0207] Incidentally Personal Digital Assistants MS1 and MS2 and a digital portable telephone with a camera, and MS3 and MS4 are made as [communicate / communicate even the base stations CS1-CS4 which are not illustrated with the simple transport protocol of 2 [Mbps], and / even the WWW servers WS1-WSn / from the base stations CS1-CS4 concerned / with a TCP/IP protocol / through Internet ITN].

[0208] In addition, it connects with a subscriber cable terminal, Personal Digital Assistants MS1 and MS2, and the digital portable telephones MS3 and MS4 with a camera through the telephone network 104, and supervisory control equipment MCU is made as [perform / authentication processing accounting, etc. to a subscriber cable terminal or Personal Digital Assistants MS1 and MS2 concerned, and the digital portable telephones MS3 and MS4 with a camera].

[0209] Next, the example of an appearance configuration of the digital portable telephone MS 3 with a camera which can be used for the above-mentioned user PC 106, replacing with is explained. As shown in drawing 40, the digital portable telephone MS 3 with a camera is divided into the display 212 and the body 213 bordering on the central hinge region 211, and is formed possible [folding] through the hinge region 211 concerned.

[0210] The antenna 214 for transmission and reception is attached in the upper bed left part at the cash drawer and the condition which can be contained, and it is made by the display 212 as [receive / an electric wave / between base stations CS 3 / through the antenna 214 concerned / transmit and].

[0211] Moreover, the camera section 215 which can rotate freely in [include-angle] about 180 degrees is formed in the upper bed center section at the display 212, and it is made as [picturize / with CCD camera 216 of the camera section 215 concerned / the desired object for an image pick-up].

[0212] As shown in drawing 41, the loudspeaker 217 prepared in the center of a tooth-back side of the camera section 215 concerned will be located in a transverse-plane side, and the display 212 is made as [switch / to the usual voice talk state / this] here, when the camera section 215 rotates about 180 degrees and is positioned by the user.

[0213] Furthermore, it is prepared and is made by the display 212 as [display / on the transverse plane / the image picturized with CCD camera 216 of the content / of the electronic mail besides being a phase hand name, the telephone number, dispatch hysteresis which are registered as the receive state of an electric wave, a cell residue, and a telephone directory liquid crystal display 218 /, simple homepage, and camera section 215].

[0214] On the other hand, the actuation keys 219, such as the numerical keypad of surface "0" - "9", a call origination key, a redial key, clear back and a power-source key, a clear key, and an electronic mail key, are formed in the body 213, and it is made as [input / using the actuation key 219 concerned / various directions].

[0215] Moreover, while MEMOBOTAN 220 and a microphone 221 are formed in the lower part of the actuation key 219 and being able to record the voice between under call by MEMOBOTAN 220 concerned on a body 213, it is made as [collect / with a microphone 221 / the voice of the user at the time of a call].

[0216] Furthermore, it is made by the body 213 as [perform / the telephone directory list with which the jog dial 222 which can be freely rotated in the upper part of the actuation key 219 prepares in the condition projected slightly, and is displayed on the liquid crystal display 218 according to the rotation actuation to a ***** cage and the jog dial 222 concerned from the front face of the body 213 concerned, scrolling actuation of an electronic mail, and a simple homepage roll up, and / various actuation of actuation, delivery actuation of an image, etc.].

[0217] For example, the body 213 is made as [perform / automatically / to the telephone number concerned / decide the selected telephone number and / call origination processing], if the desired telephone number is chosen out of two or more telephone numbers of the telephone directory list displayed on the liquid crystal display 218 according to rotation actuation of the jog dial 222 by the user and the jog dial 222 concerned is pressed in the direction of the interior of a body 213.

[0218] In addition, the battery pack which is not illustrated to a tooth-back side is inserted, power will be supplied from the battery pack concerned to each circuit section, and a body 213 will be started in the condition that it can operate, if clear back and a power-source key are turned on.

[0219] By the way, the memory stick slot 224 for inserting the memory stick (trademark of Sony Corp.) 223 which can be freely taken out and inserted in the left lateral upper part of the body 213 concerned in a body 213 is established, and if MEMOBOTAN 220 is pushed, the voice of the partner under call to a memory stick 223 will be recorded, or it is made as [record / the image picturized with the electronic mail, the simple homepage, and CCD camera 216 according to actuation of a user].

[0220] A memory stick 223 is a kind of the flash memory card developed by Sony Corp. which is an applicant for this patent here. This memory stick 223 stores the flash memory component which is a kind of EEPROM (Electrically Erasable and Programmable Read Only Memory) which is the nonvolatile memory which can be rewritten and eliminated electrically in the plastics case of the small thin configuration of vertical 21.5x width 50x thickness 2.8 [mm], and writing and read-out of various data, such as an image, and voice, music, are possible for it through 10 pin terminals.

[0221] Moreover, it formed the incorrect elimination prevention switch and has secured high dependability while the original serial protocol which can secure compatibility by the device to be used was used for the memory stick 223 also to specification modification of the built-in flash memory by large-capacity-izing etc. and it has realized the high-speed engine performance of the maximum writing speed 1.5 [MB/S] and the maximum read-out rate 2.45 [MB/S].

[0222] Therefore, since it is constituted possible [insertion of such a memory stick 223], the digital portable telephone MS 3 with a camera is made as [attain / among other electronic equipment / through the memory stick 223 concerned / share-ization of data].

[0223] As shown in drawing 42, the digital portable telephone MS 3 with a camera As opposed to the

main control section 250 made as [control / a display 212 and each part of a body 213 / in generalization] The power circuit section 251, the actuation input-control section 252, the image encoder 253, the camera interface section 254, the LCD (Liquid Crystal Display) control section 255, the image decoder 256, the demultiplexing section 257, the record playback section 262, the strange demodulator circuit section 258 And while the voice codec 259 is mutually connected through Maine Bath 260, through the synchronous bus 261, it connects mutually and the image encoder 253, the image decoder 256, the demultiplexing section 257, the strange demodulator circuit section 258, and the voice codec 259 are constituted.

[0224] The power circuit section 251 will start the digital portable telephone MS 3 with a camera in the condition that it can operate, by supplying power from a battery pack to each part, if clear back and a power-source key are made an ON state by actuation of a user.

[0225] The digital portable telephone MS 3 with a camera changes into digital voice data the sound signal which collected the sound with the microphone 221 at the time of voice talk mode by the voice codec 259 based on the control of the main control section 250 which becomes by CPU, ROM, RAM, etc., carries out spectrum diffusion process of this in the strange demodulator circuit section 258, and after it performs digital-to-analog transform processing and frequency-conversion processing in the transceiver circuit section 262, it transmits it through an antenna 214.

[0226] Moreover, after the digital portable telephone MS 3 with a camera amplifying the input signal which received with the antenna 214 at the time of voice talk mode, performing frequency conversion processing and analog-to-digital-conversion processing, carrying out spectrum back-diffusion-of-gas processing in the strange demodulator circuit section 258 and changing it into an analog sound signal by the voice codec 259, it outputs this through a loudspeaker 217.

[0227] Furthermore, the digital portable telephone MS 3 with a camera sends out the text data of the electronic mail inputted by actuation of the actuation key 219 and the jog dial 222 to the main control section 250 through the actuation input-control section 252, when transmitting an electronic mail at the time of data communication mode.

[0228] The main control section 250 carries out spectrum diffusion process of the text data in the strange demodulator circuit section 258, and after it performs digital-to-analog transform processing and frequency-conversion processing in the transceiver circuit section 262, it transmits to a base station CS 3 (refer to drawing 39) through an antenna 214.

[0229] On the other hand, when receiving an electronic mail at the time of data communication mode, after the digital portable telephone MS 3 with a camera carries out spectrum back-diffusion-of-gas processing of the input signal which received from the base station CS 3 through the antenna 214 in the strange demodulator circuit section 258 and restores the original text data, it is displayed on a liquid crystal display 218 as an electronic mail through the LCD control section 255.

[0230] The digital portable telephone MS 3 with a camera can also record after this the electronic mail received according to actuation of a user on a memory stick 223 through the record playback section 262.

[0231] On the other hand, the digital portable telephone MS 3 with a camera supplies the image data picturized with CCD camera 216 to the image encoder 253 through the camera interface section 254, when transmitting image data at the time of data communication mode.

[0232] Incidentally, the digital portable telephone MS 3 with a camera can also display directly the image data picturized with CCD camera 216 on a liquid crystal display 218 through the camera interface section 254 and the LCD control section 255, when not transmitting image data.

[0233] By carrying out compression coding of the image data supplied from CCD camera 216 with predetermined coding methods, such as MPEG (Moving Picture Experts Group)2 and MPEG4, the image encoder 253 is changed into coded-image data, and sends this out to the demultiplexing section 257.

[0234] At this time, the digital portable telephone MS 3 with a camera sends out to coincidence the voice which collected the sound with the microphone 221 during the image pick-up as digital voice data through the voice codec 259 at the demultiplexing section 257 with CCD camera 216.

[0235] The demultiplexing section 257 multiplexes the coded-image data supplied from the image encoder 253, and the voice data supplied from the voice codec 259 by the predetermined method, carries out spectrum diffusion process of the multiplexing data obtained as a result in the strange demodulator circuit section 258, and after it performs digital-to-analog transform processing and frequency-conversion processing in the transceiver circuit section 262, it transmits through an antenna 214.

[0236] On the other hand, when receiving the data of the dynamic-image file linked to the simple homepage etc. at the time of data communication mode, the digital portable telephone MS 3 with a camera carries out spectrum back-diffusion-of-gas processing of the input signal which received from the base station CS 3 through the antenna 214 in the strange demodulator circuit section 258, and sends out the multiplexing data obtained as a result to the demultiplexing section 257.

[0237] The demultiplexing section 257 supplies the voice data concerned to the voice codec 259 while it is divided into coded-image data and voice data and supplies the coded-image data concerned to the image decoder 256 through the synchronous bus 261 by separating multiplexing data.

[0238] When the image decoder 256 decodes coded-image data by the decryption method corresponding to predetermined coding methods, such as MPEG 2 and MPEG4, playback dynamic-image data are generated, this is supplied to a liquid crystal display 218 through the LCD control section 255, and the video data contained in the dynamic-image file linked to the simple homepage by this is displayed.

[0239] At this time, the voice codec 259 supplies this to a loudspeaker 217 at coincidence, after changing voice data into an analog sound signal, and thereby, ***** voice data is reproduced by the dynamic-image file linked at the simple homepage.

[0240] The digital portable telephone MS 3 with a camera can record the data linked to the simple homepage which received on a memory stick 223 through the record playback section 262 by actuation of a user like the case of an electronic mail also in this case.

[0241] It adds to this configuration. The digital portable telephone MS 3 with a camera The same application program as the above-mentioned operation gestalt etc. is stored in ROM of the main control section 250. Based on this application program, the live casting server 150 (refer to drawing 12) of the reservation management center 101 is accessed. When it reserves by being made as [perform / member registration mentioned above between the live casting servers 150 and live distribution reservation processing including reconfirmation], a reservation setting-out information file (refer to drawing 28) is received, and it enciphers automatically, and saves. Moreover, this digital portable telephone MS 3 with a camera is made as [perform / live message distribution processing based on the reservation which a user PC 106 performs in the above-mentioned operation gestalt, and same processing]. Therefore, at the time of live distribution, it is made as [perform / the reservation setting-out information file saved on the occasion of the above-mentioned reservation processing is read automatically, communication link connection is established between the streaming servers 102, the contents photoed with CCD camera 216 are transmitted to the streaming server 102, and / live distribution of contents].

[0242]

[Effect of the Invention] As explained above, in case it reserves for performing live distribution of contents according to this invention, it becomes possible to perform reservation which took into consideration the number of riding capacity or toll of a distribution place of contents by the distribution person side.

TECHNICAL FIELD

[Field of the Invention] In this invention, the program which the reservation approach of the contents distribution which reserves contents distribution which performs live distribution of contents using the distribution server which performs stream distribution of contents to a client, the contents distribution approach, the reservation management equipment that manages reservation of the contents distribution concerned, and the reservation management equipment concerned are made to perform is related to the memorized program storing medium.

PRIOR ART

[Description of the Prior Art] When offering conventionally the contents which the individual created through the Internet in a computer network system, generally opening a homepage individually is performed.

[0003] Thus, when you open a homepage individually, a user receives a homepage creation program through a personal computer (henceforth PC), makes the homepage which carried out the hyperlink to two or more contents based on the homepage creation program concerned, and accumulates this in the server of an Internet Service Provider (henceforth ISP).

[0004] And ISP is made as [offer / the linked contents / continuously], when a homepage is offered from a server to the client accessed through the Internet and the support on the homepage is clicked.

[0005] In recent years, many dynamic images, much voice, etc. are made as contents with which a client is provided through the Internet as mentioned above besides the still picture. In offering contents, such as such a dynamic image, it uploads beforehand the dynamic-image file and voice file which the user created in the predetermined storage region of the streaming server of ISP. And when a demand suits from a client, the streaming server of ISP carries out stream distribution of the file according to a demand through the Internet to a client.

[0006] Moreover, as the technique of carrying out stream distribution for contents, such as a dynamic image, to a client through the Internet, the dynamic-image file is beforehand uploaded to the streaming server, and distribution by the technique of "live distribution" is performed besides "distribution on demand" distributed according to a demand from a client as mentioned above. In live distribution, by the contents maker, the dynamic-image data created by creation, for example, the photography by the digital camera, will be encoded on real time, and this will be transmitted to a streaming server through the Internet etc. And a client with a demand can be provided with a streaming server on real time by carrying out streaming playback, recording on the storage region of dedication of the dynamic-image data supplied on real time from a contents maker in this way.

EFFECT OF THE INVENTION

[Effect of the Invention] As explained above, in case it reserves for performing live distribution of contents according to this invention, it becomes possible to perform reservation which took into consideration the number of riding capacity or toll of a distribution place of contents by the distribution person side.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By the way, if many people have to view and listen to the contents to distribute as a contents distribution person in case live distribution which was mentioned above is performed, I may think that I do not need to have so many people view and listen. Moreover, even if the costs for live distribution increased by some contents to distribute, many people had to view and listen, and even if viewed and listened by only few men, it may have been said that he wanted to control the costs for live distribution. That is, the maximum manpower, costs, etc. to which it can be viewed and listened and which a contents distribution person wishes change with the contents to distribute, and it can be said that the service which can perform live distribution in consideration of these is significant to a distribution person.

[0008] In case it reserves for this invention being made in consideration of the above-mentioned situation, and performing live distribution of contents The reservation approach of contents distribution which can perform reservation which took into consideration the number of riding capacity or toll of a distribution place of contents by the distribution person side, It aims at offering the program storing medium which memorized the program which the reservation management equipment which manages distribution reservation of contents, and reservation management equipment are made to perform, and the contents distribution approach which can perform live distribution of contents based on the reservation concerned.

MEANS

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, it sets to this invention. The contents transmitted through a network from a distribution person terminal unit are received. In order to perform live distribution of contents using the distribution server which can perform in parallel processing which carries out stream distribution of said contents through a network to a client terminal unit by two or more lines The following procedures are completed in case a distribution person terminal unit performs activity reservation of a distribution server to the reservation management equipment which manages the activity reservation status of a distribution server through a network. First, reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice and distribution server which show [of a distribution server / said] of which system of the systems he wishes two or more activities is transmitted to reservation management equipment through a network from a distribution person terminal unit. And when activity reservation of the distribution server in the system of choice and the time amount wishing an activity which are included in reservation demand information is permitted and the reservation concerned is established, accounting about reservation is performed based on the toll of the distribution server beforehand set as the system of choice.

[0010] Thus, when performing contents live distribution which used the distribution server, contents distribution can be ensured by adopting a reservation system in the time zone reserved by the distribution person of contents. Moreover, in case it reserves, it can specify of which system he wishes an activity among two or more lines of a distribution server by including the system of choice which shows the activity [two or more any] of a distribution server he wishes in reservation demand information, and transmitting to reservation management equipment from a distribution person terminal unit. And when reservation in alignment with this hope is established, accounting based on the toll beforehand set as the wished system concerned will be performed. Therefore, a distribution person can choose a system in consideration of the costs for contents distribution etc. according to the toll set up beforehand, and can wish to use the system concerned in the case of reservation.

[0011] Moreover, in case the contents transmitted through a network from a distribution person terminal unit receive, activity reservation of the distribution server which can perform in parallel processing which carries out stream distribution of the contents through a network to a client terminal unit by two or more lines performs to reservation management equipment, contents transmit from a distribution person terminal unit to a distribution server based on the reservation concerned and contents distribution carries out, the following procedures step on in another mode of this invention. First, reservation demand information including the time amount wishing an activity which wishes the contents distribution which used the system of choice and distribution server which show of which system of two or more lines of a distribution server he wishes an activity is transmitted to reservation management equipment through a network from a distribution person terminal unit. Then, when activity reservation of the distribution server in the system of choice and the time amount wishing an activity which are included in reservation demand information is permitted, in order to perform contents distribution based on the permitted reservation concerned, contents are transmitted to a distribution server through a network from a distribution person terminal unit. And when the distribution demand of contents is made from a client terminal unit to a distribution server through a network, it distinguishes whether based on the number of riding capacity of the distribution place beforehand set as the system of choice, the distribution demand of the client terminal unit concerned is permitted. Next, when permitting the distribution demand of a client terminal unit, stream distribution of the contents transmitted from said distribution person terminal unit is carried out through a network at said client terminal unit from said distribution server.

[0012] Thus, when performing contents live distribution which used the distribution server, contents distribution can be ensured by adopting a reservation system in the time zone reserved by the distribution person of contents. Moreover, in case it reserves, it can specify of which system he wishes an activity among two or more lines of a distribution server by including the system of choice which

shows the activity [two or more any] of a distribution server he wishes in reservation demand information, and transmitting to reservation management equipment from a distribution person terminal unit. And establishment of reservation in alignment with this hope distinguishes whether based on the number of riding capacity of the distribution place beforehand set as the wished system concerned, it should distribute to a client terminal unit with a distribution demand. Therefore, a distribution person can choose a system according to the number of riding capacity set up beforehand in consideration of hope what manpower to want to view and listen to the contents to distribute, and can wish to use the system concerned in the case of reservation.

[0013]

[Embodiment of the Invention] Hereafter, the operation gestalt of this invention is explained with reference to a drawing.

A. outline **** of the whole configuration A-1. system of a contents distribution system -- drawing 1 is the block diagram showing the whole contents distribution system 100 configuration which offers the personal casting (Personal Casting) service using the reservation approach of the contents distribution concerning 1 operation gestalt of this invention first.

[0014] As shown in drawing 1, this contents distribution system 100 is equipped with the server activity reservation management center 101 connected to the Internet 103 with the user (distribution person terminal unit) PC 106 connected through the Internet Service Provider and telephone network 104 which are not illustrated to the Internet 103 and the streaming server (processing server) 102, and the client PC 107 of plurality (a graphic display is three) connected to the Internet 103 through a telephone network (graphic display abbreviation) or a dedicated line (graphic display abbreviation). Here, it connects with the network 108 only for server connection, and in case the streaming server 102 transmits data to the streaming server 102 from a user PC 106 at the time of the live distribution mentioned later, a user PC 106 makes PPP (Point-to-Point Protocol) connection of it through a telephone network 104 at the access port of the network 108 only for server connection. As a means which makes PPP connection, an analog public network, ISDN (Integrated Services Digital Network) and PHS (PIAFS (Personal Handypone System Internet Access Forum Standard)), a cellular phone, a dialup router course, etc. are used. By this, the communication path between a user PC 106 and the streaming server 102 will be established, and contents data will be transmitted using this communication path. Moreover, the dedicated line 109 is laid also for between the streaming server 102 and the server activity reservation management centers 101, and transfer of data is performed among both through the dedicated line 109 concerned in the cases, such as authentication processing to which it mentions later.

[0015] In this contents distribution system 100, while a user's PC 106 user transmits the contents data (for example, image data which photoed the music live) currently photoed with the digital camera etc. to the streaming server 102 in the time zone (for example, 15:00 - 16:00) reserved beforehand, the streaming server 102 carries out stream distribution of the above-mentioned contents data to the client PC 107 with a demand. The contents distribution system 100 can offer now the personal casting service which a user's PC 106 user makes realize individual broadcast of receiving the contents data photoed with the digital camera etc. on real time to a client PC 107 side, and reproducing by doing in this way.

[0016] Moreover, in this contents distribution system 100, in order to realize personal casting service whose user can ensure dispatch of individual broadcast to desired time amount, the reservation system of access and an activity is adopted to each user's streaming server 102. That is, a user demands reservation of the time zone which wishes to perform individual broadcast, i.e., the time zone when a user (PC) accesses to the streaming server 102 at, and wishes the activity of the stream distribution function by the streaming server 102 concerned, of the server activity reservation management center 101 through the Internet 103. And when reservation is permitted by the server activity reservation management center 101, a user PC 106 accesses the streaming server 102 in the time zone based on this reservation, and enables it to perform live distribution.

[0017] Although the contents distribution system 100 is a system which offers the personal casting service which introduced a reservation system which was mentioned above, it is hereafter explained to a detail about each component of this contents distribution system 100.

[0018] A-2. user PC **** and a user PC 106 are explained. With this operation gestalt, in the personal casting service by the contents distribution system 100, a user PC 106 shall say PC which the user who has the access which can become the broadcaster side who creates and sends contents data uses for dispatch of the above-mentioned contents data etc., after passing through the registration procedure processing mentioned later.

[0019] As shown in drawing 2, a user PC 106 As work-piece memory of CPU (central processing unit) 120 and CPU120 which control each part while performing various data processing RAM used ()

[Random Access] The operating system which reading appearance is carried out to ROM (Read only Memory)122 and CPU120 which stored the program group which reading appearance is carried out to Memory121 and CPU120, and is performed, and is performed (For example) As opposed to the hard disk 123 and user who stored program groups, such as "Windows 95 / 98/2000" (Microsoft Corp.), and an application program A keyboard for the interface 125 for a display for displaying on a display 124 the image according to the data supplied from the displays 124, such as a liquid crystal display which displays an image, and CPU120, and a user to input directions, A mouse, The control units 126, such as a rotary dial mentioned later and a manual operation button, and a control unit 126 are minded. The interface 127 for control units and telephone network 104 (refer to drawing 1) which supply the data showing the inputted directions to CPU120 are minded. It has the network interface 128 which delivers and receives data between the equipment connected to the Internet 103 (refer to drawing 1) or the network 108 (refer to drawing 1) only for server connection, and the digital video camera 129 built in in a user PC 106. In addition, a hard disk 123 is written by reading and CPU120, and is used also for storage of dynamic-image data and the various data for control.

[0020] Here, drawing 3 shows the example of an appearance configuration of the user PC 106 who built in the above digital video cameras 129. keyboard side case section 106b which arranges display side case section 106a which arranges liquid crystal screen 124a, and keyboard 126a like a notebook mold personal computer with the user PC 106 common as shown in drawing 3 (a) who shows this example -- having -- *** -- both -- hinge region 106c -- relativity -- it is connected pivotable. Moreover, carrying out a relative revolution is also made possible in the direction which shows display side case section 106a by the drawing Nakaya mark A to keyboard side case section 106b. Furthermore, actuation dial 126b of a rotating type is prepared in the end side of display side case section 106a. Not only revolution actuation but this actuation dial 126b can perform press actuation.

[0021] Carbon button case section 106e which has arranged manual operation button 126c of plurality (a graphic display is four), and the digital video camera 129 mentioned above are attached in one side edge side of keyboard side case section 106b. Here, fixed installation of the carbon button case section 106e is carried out like a graphic display. On the other hand, the digital video camera 129 is supported free [a revolution] by one point of the side edge side of keyboard side case section 106b, and the revolution in the direction which this shows by the arrow head B in drawing is attained for it.

[0022] A user PC 106 becomes possible [using it with a gestalt as shown in drawing 3 (b) - drawing 3 (d) other than the common note type personal computer shown in drawing 3 (a), and a similar gestalt] under such structure. For example, if it is used with a gestalt as shown in drawing 3 (b), a user can grasp the user PC 106 concerned and can photo the user itself with the digital video camera 129. Under the present circumstances, since liquid crystal screen 124a is turned to the user side like a graphic display, a user can take a photograph, checking what kind of image is photoed. When using it with such a gestalt, since it is located in a user's background, keyboard 126a is difficult for a user doing exact actuation. In consideration of this point, the actuation (for example, actuation for directing addition of photography initiation, a halt, a zoom, and an effect, preservation of dynamic-image data, transmission, etc.) about photography of the digital video camera 129, processing of a photography image, etc. in processing according to the application program mentioned later can carry out now by operating suitably actuation dial 126b and manual operation button 126c which were mentioned above. Moreover, if it is used with a gestalt as shown in drawing 3 (c), while a user grasps a user PC 106 and looks at liquid crystal screen 124a, the object for photography which is present in a transverse plane can be photoed.

[0023] By performing the application program with which CPU120 was stored in ROM122 and the hard

disk 123 based on the directions of a user inputted by the charge and the control unit 126 of the power source which is not illustrated, in service of the contents distribution system 100 mentioned above, return and a user PC 106 are constituted by drawing 2 so that varieties, such as carrier beam dynamic-image data message distribution processing, dynamic-image data origination and processing processing, and WWW (World-Wide Web) browsing, may be processed. It explains paying attention to various functions realized when CPU120 performs processing according to this application program hereafter, referring to the display screen etc. about a user's PC 106 function.

[0024] First, in a user PC 106, if the above-mentioned application program is performed, the display of an initial screen as shown in a display 124 by control of CPU120 at drawing 4 will be made. As shown in this drawing, in this initial screen, the subimage display area 41 of small size where the preview of the image photoed at the last at the time of the last application program activation concerned is displayed as the main image display area 40 of the large size which displays the image photoed with the digital video camera 129 is displayed on a screen upper right side. Moreover, GUI (Graphical User Interface) for making the mode (mode), the class (camera) of image, setting out (setting), and the content (operation) of directions choose is displayed on the subimage display area 41 bottom. A user can perform now class selection, setting-out modification, a directions input, etc. of images, such as mode selection, a still picture (STILL), or an animation (MOVIE), by carrying out selection setting out of these items suitably.

[0025] It sets to the application concerned here. A user photography mode (mode at the time of choosing "it photographing" on GUI), and upload mode (a GUI top -- "- to see -- it sends -- " -- the mode at the time of choosing) -- Web check mode (mode at the time of choosing "Web being seen" on GUI), The five modes, such as live reservation mode (mode at the time of choosing "the live reservation / check" on GUI) and live distribution mode (mode at the time of choosing "live distribution" on GUI), can be chosen now. In addition, photography mode is chosen in the initial state at the time of the application program starting concerned.

[0026] Photography mode is the mode which takes a photograph with the digital video camera 129 which a user PC 106 builds in, and a screen as shown in drawing 5 (a) by control of CPU120 is displayed on the case where this mode is chosen, or an initial state. As shown in this drawing, like the initial screen (refer to drawing 4) mentioned above, the main image display area 40 and the subimage display area 41 are shown by the display screen in photography mode, the image under present photography is displayed on the main image display area 40, and the preview of the image photoed at the last before the present photography is displayed on it by the subimage display area 41.

[0027] Also in this mode, GUI mentioned above is displayed on the subimage display area 41 bottom. As shown in drawing 5 (b), to GUI in this mode Selections called "mode", "camera", "setting", and "operation" which were mentioned above are displayed. In the selections of "operation" in this mode There are an item ("capture") for directing the capture of an image, an item ("network connection / cutting") which directs to connect/cut to the Internet. After moving Focus F (a thick wire illustrates) on a desired item by carrying out revolution actuation of the actuation dial 126b, by carrying out press actuation of the actuation dial 126b, a desired item can be chosen and it can determine.

[0028] In this photography mode, to moreover, manual operation button 126c (refer to drawing 3) prepared in carbon button case section 106e If the command which is needed in the case of image photography is assigned (for example, command which directs selection of the effect given to an image etc.), a user Actuation on photography mode can be performed by actuation of only actuation dial 126b and manual operation button 126c, without using keyboard 126a (referring to drawing 3). It becomes possible to perform easily photography actuation with the gestalt in the location keyboard 126a as shown in drawing 3 (b) and drawing 3 (c) is hard to operate. In addition, although you may make it manual operation button 126c assign the above commands as a default, it may enable it to choose the command which a user assigns to arbitration for every mode at manual operation button 126c in other modes explained to this photography mode or the following. If it does in this way, by setting up so that a user may assign a command with high operating frequency to manual operation button 126c in each mode, in each mode, the need of operating keyboard 126a will decrease and operability will improve.

[0029] the status window SW display on the screen lower part side show in drawing 5 (a) be the present

user PC 106 conditions (for example, a dc-battery residue, available memory of a hard disk drive, etc.), and a processing state (for example, information, such as command assignment of the data size of the image currently photo, the specify preservation places (a hard disk, network, etc.), and manual operation button 126c, be display.) in the choose mode.

[0030] Next, upload mode is the mode transmitted to the server (un-illustrating) of the predetermined upload place which made display it and referred to the image data photoed in the photography mode mentioned above, or chose image data, and was connected to the Internet 103 (refer to drawing 1). When this mode is chosen, a screen as shown in drawing 6 (a) is displayed on a display 124 by control of CPU120. As shown in this drawing, the preview area 42, the list display area 43 which displays the photoed image side by side (it is arranging perpendicularly in the example of a graphic display), GUI, the status window SW, and the transmitting capsule icon SC are displayed on the display screen in upload mode.

[0031] As shown in drawing 6 (b), to "operation" of GUI in upload mode The item which directs to connect/cut to the Internet "they are connection/cutting to a network", The item which directs transmitting initiation / termination of image data "transmitting initiation / termination", The item which directs migration of Focus F in the list display area 43 "focal migration", There is an item ("refer to transmitting capsule") which directs to see the list of the image data chosen so that the inside of the transmitting capsule icon SC may be seen, namely, it may transmit. After moving Focus F to a desired item by carrying out revolution actuation of the actuation dial 126b like the above-mentioned photography mode, a desired item can be chosen by pressing actuation dial 126b.

[0032] Moreover, in upload mode, the command which directs playback/halt of the dynamic image to the preview area 42, the display of a static image, etc. is assigned to manual operation button 126c. Moreover, the file name of image data, a file size, formats (JPEG (JointPhotographic Experts Group), MPEG (Moving Picture Experts Group), etc.), and the information (Server Name to upload and its URL (Uniform Resource Locator)) that shows the transmission place by which current assignment is carried out are displayed on the status window SW in this mode.

[0033] Here, when the item ("focal migration") which directs migration of Focus F in the list display area 43 is chosen, Focus F moves onto the list display area 43. Thus, when Focus F moves onto the list display area 43, sequential migration of the image top with which a list indication of the focus F is given according to revolution actuation of actuation dial 126b will be carried out. A user does revolution actuation of the manual operation button 126c and moves Focus F on the image data concerned to transmit a certain image data. And if press actuation of the actuation dial 126b is carried out, as shown in drawing 6 (a), SUBGUI for directing the processing to that image data will be displayed, and Focus F will move onto the item of this SUBGUI. As shown in drawing 6 (c), "preservation", "deletion", the "preview", and the directions item of "putting into a transmitting capsule" are set to SUBGUI. Here, if revolution actuation of the actuation dial 126b is carried out, "put into a transmitting capsule", and it is made to move and also [which is processing of a request of Focus F] press actuation of the actuation dial 126b is carried out, it will be added to the list of the image data which the image data concerned should transmit. Thus, in choosing the image data which transmits and transmitting actually, Focus F is returned on the item of GUI and it chooses transmitting initiation / termination. Thus, selection of transmitting initiation / termination performs transmitting processing of the image data chosen by a user's PC 106 CPU120.

[0034] Next, Web check mode is, when it is the mode in which connect with networks, such as the Internet, and browsing is performed and Web check mode is chosen, A screen as shown in drawing 7 (a) is displayed on a display 124 by control of CPU120. As shown in this drawing, in order to display a resource on the browser display screen 44 which displays a web browser, and the browser display screen 44, in Web check mode, the URL display column 45 which displays URL to which the input etc. was carried out, GUI, and the status window SW are displayed. Here, if Web check mode is chosen, browser software (for example, Internet Explorer (Microsoft Corp.) and Netscape Navigator (trademark of the Netscape company)) stored in the hard disk 123 by CPU120 will be performed, and the display screen by the above-mentioned browser software will be displayed on the browser display screen 44.

[0035] As shown in drawing 7 (b), "browsing" for choosing the item directed in the case of browsing is displayed on GUI in Web check mode, and the item ("jump") which directs to jump to a predetermined Web page, and the item (for example, "it returns") which operates a browser are displayed on "browsing". [a "degree",] moreover, to "operation" in this mode The item which directs to connect/cut to the Internet "network connection / cutting", There is an item ("focal migration") which directs the migration of Focus F to the browser display screen 44. After moving Focus F to a desired item by carrying out revolution actuation of the actuation dial 126b, a desired item can be chosen by carrying out press actuation of the actuation dial 126b.

[0036] In this "Web check", the usual general browsing processing in which input URL and browsing is performed can be performed.

[0037] Next, live reservation mode is connected to the server activity reservation management center 101 (R> drawing 1 1 reference) through the Internet 103, it is the mode for reserving the time zone for performing individual broadcast using the personal casting service mentioned above etc., and if live reservation mode is chosen, a screen as shown in drawing 8 (a) will be displayed on a display 124 by control of CPU120. As shown in this drawing, in addition to the browser display screen 44, the URL display column 45, GUI, and the status window SW, in live reservation mode, the reservation list display area 46 is displayed like the Web check mode mentioned above.

[0038] As shown in drawing 8 (b), there are an item ("network connection / cutting") which directs to connect/cut to the Internet, an item ("focal migration") which directs the migration of Focus F to the browser display screen 44 in "operation" of GUI in live reservation mode. Moreover, "browsing" is displayed on GUI in this mode like the Web check mode mentioned above, and there are an item ("reservation jump") which directs to jump to the Web page for performing live reservation, an item (for example, "it returns") which operates a browser in "browsing". [a "degree",] A user can choose a desired item by carrying out press actuation of the actuation dial 126b, after moving Focus F to a desired item by carrying out revolution actuation of the actuation dial 126b. In addition, the Web page for performing live reservation is a Web page which the live casting server later mentioned in the server activity reservation management center 101 stores in the hard disk.

[0039] Here, when a user reserves live distribution using personal casting service, a selection decision of the item which directs to jump to the Web page for performing distribution reservation is made. Thereby, CPU120 can access the above-mentioned live casting server through the Internet 103, in order to perform live reservation, and it can deliver now and receive information about reservation of transmitting reservation demand information to the live casting server concerned, or downloading the reservation setting-out information from a live casting server.

[0040] A list indication of the content which the user reserved to the above-mentioned server activity reservation management center 101 is given, and outline information, such as a reservation time zone, is displayed on the reservation list display area 46 for every reservation. After a user moves Focus F on the reservation list display area 46 by carrying out revolution actuation of the actuation dial 126b, by carrying out press actuation of the actuation dial 126b When the item as which the reservation outline information on the request on the reservation list display area 46 was displayed is chosen, CPU120 Although control which is jumped to the Web page for performing the reservation check of the live casting server of the above-mentioned server activity reservation management center 101 is performed in order to check the reservation The detail about the processing about reservation between a user PC 106 and the server activity reservation management center 101 is mentioned later.

[0041] Next, live distribution mode is connected to the streaming server 102 (refer to drawing 1) through a telephone network 104 and the network 108 only for server connection, it is the mode in which contents data, such as dynamic-image data photoed with the digital video camera 129, are transmitted to the streaming server 102 on real time, and stream distribution of the contents data transmitted in this mode is carried out by the streaming server 102 at the client PC 107 with a demand. Thereby, the user can distribute individual broadcast on real time.

[0042] If such live distribution mode is chosen, a screen as shown in drawing 9 (a) will be displayed on a display 124 by control of CPU120. As shown in this drawing, in live reservation mode, the preview

screen 47 which displays the image with which the image transmitted to the effect display column 48 and the streaming server 102 for choosing the effect given to a photography image is displayed, that is, the predetermined effect etc. was given to the photography image of the digital video camera 129, GUI, and the status window SW are displayed.

[0043] In the status window SW in live distribution mode The broadcasting information which shows that it is under distribution, the distribution elapsed time information which shows the elapsed time from distribution initiation, The time information by the side of a service provider, the time information by the side of a user PC 106, the reservation time zone information that shows reservation start time and reservation end time, Image size information, the bit rate information which shows the transmitting rate (bit rate) of distribution data, The connection place information which shows the title name information on distribution image data, the connected streaming server 102, and its channel, the number information of viewers which shows the number of the clients which have received the contents data in which stream distribution is carried out by the streaming server 102 are displayed.

[0044] As shown in drawing 9 (b), to "operation" of GUI in live distribution mode The item which directs to connect/cut to the Internet "network connection / cutting", The item ("distribution initiation / termination") which directs initiation/termination of live distribution, the effect setting-out item ("effect setting out") which sets up the effect displayed on the effect display column 48, There is an item ("focal migration") which directs migration of the focus F to the effect display column 48. After moving Focus F to a desired item by carrying out revolution actuation of the actuation dial 126b, a desired item can be chosen by carrying out press actuation of the actuation dial 126b.

[0045] If a selection decision of the item which directs initiation/termination of live distribution here is made, CPU120 will be connected to the streaming server 102 through a telephone network 104 and the network 108 only for server connection according to the reservation setting-out information supplied from the live casting server in the live reservation mode mentioned above. And if connection with the streaming server 102 is established, CPU120 will transmit the dynamic-image data which were set as the above-mentioned reservation setting-out information and which it followed the content (for example, data transmission rate etc.), and were photoed with the digital video camera 129 to the streaming server 102 on real time. In addition, the detail about the communication link connection processing between the streaming servers 102, the dynamic-image data transmitting processing after communication link connection, etc. is mentioned later.

[0046] As shown in drawing 10 , the effect name is shown in the effect display column 48 in live distribution mode by every A carbon button in manual operation button 126c, and B carbon button ("A" and "B" are written on the carbon button top face etc.) together with the vertical direction. Here, the effect name most displayed on an upper case is an effect name by which current selection is made. In the example of a graphic display, the effect name "heart pattern display", "nothing", and "applause sound" is shown in sequence by the A carbon button from the top as a selection candidate. The effect name corresponding to the effect name surrounded by the focus F which these move relatively by revolution actuation of actuation dial 126b, That is, when it is for directing to give the effect corresponding to the effect name which current selection is made and is displayed on the maximum upper case and a user does the depression of the A carbon button in manual operation button 126c The effect corresponding to the effect name which was surrounded by Focus F and chosen as it is given to the photography image of the digital video camera 129. For example, when depression actuation of the A carbon button is carried out in the state of a graphic display, processing which applies the applause sound which is an effect corresponding to an "applause sound" to the dynamic-image data photoed by the digital video camera 129 is performed. In addition, it means Focus F not moving in this mode that the above-mentioned focus F moves relatively by actuation of revolving dial 126b, but moving in an "effect name" top. [which the display column of an effect name scrolled and was displayed on the display column as a result]

[0047] The effect name "title imposing" which is surrounded by the current focus F, that is, is chosen as it is displayed on the maximum upper case by the B carbon button, and the effect [sequence / from a top / "BGM1", "monochrome image", and "title imposing"]-caudad name as a selection candidate is

shown on it. It is for directing that these give the effect corresponding to the effect name surrounded by Focus F, and when a user does the depression of the B carbon button in manual operation button 126c, the effect corresponding to the effect name surrounded by Focus F is given to the photography image of the digital video camera 129. For example, when depression actuation of the B carbon button is carried out in the state of a graphic display, superimposition processing of the title name which is an effect corresponding to "title imposing" is performed to the dynamic-image data photoed by the digital video camera 129. The effect processing corresponding to the B carbon button to the effect processing corresponding to the A carbon button being addition of the "applause sound" which is the processing given temporarily etc. here is processing given continuously. Therefore, effect grant processing of making it "monochrome image" is continued until depression actuation is carried out next, once it adopts a toggle button as a B carbon button in a user's PC 106 manual operation button 126c and depression actuation is carried out.

[0048] Moreover, on the right-hand side of the screen, the effect name of the presetting beforehand set up by the user is displayed on the pan which shows the effect name corresponding to the B carbon button. The effect independently displayed on this column as button grabbing continues, and the effect displayed here is given, unless the effect preset in effect setting out mentioned later is changed. In the example of a graphic display, "time" is set up and a time display always superimposes in the dynamic-image data distributed in this case.

[0049] It takes into consideration that the above effect processings perform live distribution, i.e., transmit the dynamic-image data photoed with the digital video camera 129 on real time. That is, in order to transmit the photoed image on real time, the actuation at the time of giving an effect etc. to the photoed image enables it to perform processing by the user PC 106 by one depression actuation of the A carbon button or the B carbon button, as the easy thing was required and mentioned above in performing live distribution. However, when depression actuation of the A carbon button or the B carbon button of what can direct the processing which gives an effect by depression actuation of one carbon button is carried out, processing of the effect corresponding to the effect name surrounded by the focus F on the effect display column 48 is performed. The relative movement magnitude of the focus F for giving a desired effect as it is that with which neither the effect name displayed on the effect display column 48 nor its display order agrees in an intention of a user increases, revolution actuation of actuation dial 126b etc. takes time amount, and a user may be able to stop therefore, being able to give a desired effect to desired timing.

[0050] So, in live distribution mode, it can set up now which effect is displayed on the above-mentioned effect display column 48 in what kind of sequence out of the effect of a large number currently prepared beforehand by choosing "effect setting out" in GUI (refer to drawing 9 (b)) mentioned above. Here, drawing 11 shows the screen displayed on a display 124, when "effect setting out" (refer to drawing 9 (b)) of Above GUI is chosen. As shown in this drawing (a), (b), and (c), the A carbon button, the B carbon button, and three screens for setting out called presetting are prepared. Effect list column 50a corresponding to A carbon button which displays the effect name of a large number corresponding to [give temporarily that is,] the A carbon button currently prepared beforehand is displayed on screen left-hand side by the screen which performs effect setting out corresponding to the A carbon button shown in drawing 11 (a), and the registration list column 52 which should be displayed on the effect display column 48 mentioned above is shown in the right-hand side. Registration list column 52 for A carbon buttons a, registration list column 52 for B carbon buttons b, and preset-entry column 52c are displayed on the registration list column 52, the foreground color of registration list column 52 for B carbon buttons b and preset-entry column 52c differs from the foreground color of registration list column 52a for A carbon buttons on the screen for A carbon button setting out, and the user enables it to recognize easily by this the registration column in which the present setting out is possible. A scrolling indication of the effect name of effect processing of a large number which are beforehand prepared for effect list column 50a corresponding to A carbon button and which can be performed is given in the vertical direction.

[0051] In such a display screen, the effect which chose the effect which should be displayed on the

effect display column 48, and was chosen as registration list column 52a for A carbon buttons from the effects currently displayed on effect list column 50a corresponding to A carbon button is dragged. Thus, a user can set up so that the effect of the request corresponding to the A carbon button may be displayed on the effect display column 48 in order of a request.

[0052] When setting up the effect corresponding to the B carbon button, the screen shown in drawing 11 (b) is displayed. Effect list 50b corresponding to B carbon button which displays the effect name of a large number corresponding to [give continuously that is,] the B carbon button currently prepared beforehand is displayed on the right-hand side of this screen. A scrolling indication of the effect name of effect processing of a large number which are beforehand prepared for such effect list 50b corresponding to B carbon button and which can be performed is given in the vertical direction.

[0053] In such a display screen, the effect which should be displayed on the effect display column 48 is chosen from the effects currently displayed on effect list column 50b corresponding to B carbon button, and it drags to registration list column 52b for B carbon buttons. Thus, a user can set up so that the effect of the request corresponding to the B carbon button may be displayed on the effect display column 48 in order of a request.

[0054] When setting up the effect of presetting, the screen shown in drawing 11 (c) is displayed. Presetting effect list 50c which displays the effect name of a large number which are prepared beforehand, and which are given continuously is displayed on the right-hand side of this screen. A scrolling indication of the effect name of effect processing of a large number which are beforehand prepared for such presetting effect list 50c and which can be performed is given in the vertical direction.

[0055] In such the display screen, the effect which should be displayed on the effect display column 48 is chosen from the effects currently displayed on presetting effect list column 50c, and it drags to registration column 52c for presetting. Thus, a user can set up the effect of presetting.

[0056] Generally, in performing live distribution, it has done timing, sequence, etc. which give the class of effect which should be given, and its effect as a design for a user. Therefore, if setting out in consideration of the class and grant sequence of the effect based on the design for such a user to give is performed beforehand, in live distribution, effect processing which reproduced the design for a user more faithfully by simple actuation can be performed.

[0057] Although a user PC 106 can store the application program equipped with five functions, such as the above photography modes, upload mode, Web check mode, live reservation mode, and live distribution mode, in a hard disk 123 and the above processing facilities can be performed. Although the program for performing processing which carries out the automatic incorporation of the reservation setting-out information file otherwise later mentioned at the time of live distribution reservation, and the program for performing communication link connection processing to the streaming server 102 at the time of live distribution are stored. The detail about the function by such program executions is mentioned later.

[0058] As A-3. server activity reservation management equipment **** was carried out, when a user PC 106 performs live distribution as a broadcaster, it is necessary to perform reservation which the streaming server 102 uses for the time zone which performs live distribution with the personal casting service offered by the contents distribution system 100. Next, it explains, referring to drawing 1212 about the server activity reservation management center 101 by the side of the service provider which manages activity reservation of such a streaming server 102.

[0059] As shown in this drawing, the server activity reservation management center 101 is equipped with the live casting server 150 and the reservation database 151 which are connected to LAN (Local Area Network), the user database 152, the NTP (Network Time Protocol) server 153, the network interface 154, and the database server 155. Here, each above-mentioned component of the server activity reservation management center 101 delivers and receives various data between the streaming servers 102 connected to the user PC 106, the client PC 107, and dedicated line 109 (refer to drawing 1) which are connected to the Internet 103 through a network interface 154.

[0060] The live casting server 150 is a server which performs processing for managing the whole service concerned of reservation processing of the live distribution in personal casting service, accounting,

registration processing of a service member, etc. For registration for the live casting server 150 to acquire the access in which a user receives the service concerned, For a reservation check to perform a reservation check and for the object for reservation reception and user who receive the reservation from a user make a change, And the Web pages for the race card reference for making the race card by which live distribution is carried out refer to to a client PC 107 etc. are stored in a hard disk. When there is a demand from a user PC 106 and a client PC 107, it is made as [make / a user PC 106 and a client PC 107 / to peruse the Web page according to this demand]. Hereafter, the Web page currently prepared for the live casting server 150 is explained, referring to the display screen displayed on the browser screen by the side of PC which required access of the Web page concerned.

[0061] Here, drawing 13 shows the Web page display screen displayed on the demanded PC side, when an input etc. carries out URL for the user of the PC concerned to identify the top page (homepage) of the Web page of the live casting server 150 using PC connectable with the Internet 103 of a user PC 106 and client PC 107 grade and an access demand is performed. In addition, when carrying out the access demand of the top page of the Web page of the live casting server 150, there is also a method of jumping to the page concerned by click actuation of the link carbon button on other homepages besides the approach of inputting URL as mentioned above.

[0062] As shown in drawing 13, to this homepage It adds to the column which enters user ID and a password since it logs in. "Member registration", "it being ? with the personal casting TV", "today's live", If link carbon buttons, such as a "program guide", a "my channel", "live distribution reservation", "program pickup", and "Image Station", are displayed and these are clicked The Web page by which the hyperlink was carried out to each link carbon button is transmitted and displayed on the PC side.

[0063] First, although the Web page for registering the member who can receive the personal casting service concerned will be displayed on the display screen by the side of PC when "member registration" is clicked, the detail about this is mentioned later.

[0064] Next, when "it is ? with the personal casting TV" is clicked, a screen as shown in drawing 14 is displayed on the display screen by the side of PC. As shown in this drawing, the link carbon button "a registration page" which the publication to which member registration of the personal casting service concerned is urged, and the Web page of the above "member registration" are made to jump is displayed on this Web page screen. Moreover, explanation of outline explanation of personal casting service, procedure, etc. is described by this display screen.

[0065] Next, when "today's live" is clicked, a screen as shown in drawing 15 is displayed on the display screen by the side of PC. As shown in this drawing, in this Web page screen While the live program distributed today is displayed and displaying the current time by the side of a service provider (reservation is carried out based on this time amount) on the upper part An information list indication of the items, such as distribution time amount of the special program distributed to the lower part side today and a private program, a title, a distribution person, and an outline, is given (although the example of a graphic display has described the subject name to display). The contents (a distribution person name, title name, etc.) of the above-mentioned item are displayed actually. Here, special programs are contents which an enterprise etc. offers and a private program means the contents offered by the individual user like a user PC 106. Moreover, the program described to be "on demand" instead of distribution time amount is a program for not live distribution but the distribution on demand which memorizes distribution data by the live casting server 150 side beforehand, and is distributed according to a demand from client PC 107 grade. Moreover, the "riding capacity" in a private program is information which shows the riding capacity of the number of clients which can receive distribution of the contents of the program concerned, and "OPEN" and "CLOSE" are information which is this time and shows whether it can distribute according to a demand of client lower after taking into consideration the above-mentioned riding capacity's etc. limit ("OPEN" is the distribution possibility of and "CLOSE" is non-delivery).

[0066] Here, the "title" under list of the programs mentioned above serves as a link carbon button, and if this is clicked, as shown in drawing 16, the detailed information of the live program of the clicked "title" will be displayed. If "playback" carbon button 175 is clicked while performing a just password

input into the distribution time amount of the program concerned in this screen, a distribution demand of the live program concerned will be transmitted to the streaming server 102 through the Internet 103. Thereby, the client PC 107 which performed the distribution demand can receive stream distribution of the live program contents concerned by the streaming server 102, and can reproduce this now on real time. In addition, in order to carry out real-time playback of the contents in which streaming distribution was carried out by the streaming server 102, the playback software (for example, "Real player" (RealNetworks), "Windows Media Player" (Microsoft Corp.), etc.) for performing the real-time regeneration concerned is needed. Therefore, when PC which performs a distribution demand does not store the above-mentioned playback software, the "playback software" carbon button 176 is clicked. the contents from which the above-mentioned playback software downloaded to PC, and stream distribution was carried out by the streaming server 102 in the PC concerned by this -- real time -- reproducing -- **** -- things are made.

[0067] Next, when a "program guide" is clicked, a screen as shown in drawing 17 is displayed on the display screen of PC. As shown in this drawing, the month-long calender with which this Web page screen contains a current day is displayed, and the list of the programs which distribute to the date by which a void indication of the calender concerned was given is displayed. Here, the list of the programs displayed is the same as that of "today's live" mentioned above (refer to drawing 16). In this display screen, if the date of the request on the above-mentioned month-long calender is clicked, the program list of the dates concerned will be displayed. in addition, the screen display in the above "today live", and a "program guide" may be a display format like the TV section of the newspaper of prepare the program display column of the shape of a matrix which said not only to a thing but to the axis of ordinate as show in drawing 16 and drawing 17 as time of day, and be said to the axis of abscissa as the channel, and display a title name, a content, a distribution person name, etc. in the matrix concerned, and the display format be arbitrary.

[0068] Next, a "my channel" is a Web page prepared for every [which has the access which can serve as an addresser of live distribution] user (user who mentions later, and by whom premium member registration is done), and if a "my channel" is clicked, the Web page which checks the content of reservation of live distribution of the user at present will be displayed. Moreover, although the Web page for reserving live distribution is displayed and it is when "live distribution reservation" is clicked, the detail about these is mentioned later. In addition, about the user who omits member registration, since there is neither user ID nor a password, log in processing in which above-mentioned user ID and an above-mentioned password are entered can be performed no longer. When a "my channel" and "live distribution reservation" are clicked in PC of the user who omits such log in processing, it does not jump to the Web page which corresponds, respectively, but it jumps "for it to be ? with the personal casting TV", and member registration is demanded from the user concerned.

[0069] Next, "program pickup" is a Web page which introduces the program which a service provider side recommends, and if this is clicked, the detailed information (refer to drawing 16) of the program which a service provider recommends will be displayed.

[0070] The live casting server 150 stores a Web page which was mentioned above in the hard disk.

[0071] As return and the reservation database 151 memorize the information about accounting generated by the reservation status and reservation in live distribution to drawing 12 and it is shown in drawing 18. The content information of reservation which includes a reservation time zone, the channel to be used, an activity band (bps (bitper second)), etc. for every reservation, The reservation ID used for the user ID for identifying a user, the accounting flag information which shows whether reservation is approved and it can charge at the event, and the authentication at the time of the reservation performance concerned is feared the account of response *****. Each of such information will be written in in the cases, such as reservation processing by the live casting server 150 mentioned later, and each information memorized in the authentication processing by the database server 155 mentioned later will be referred to.

[0072] The user database 152 memorizes the information about the registered user who has the access which receives personal casting service, and information, such as a name (name), user ID, a password, an e-mail address, an address, the telephone number (a cellular phone and facsimile number) and a credit

card number for charging, and an expiration date of a credit card, is memorized for every registered user concerned. Each of such information will be written in in the case of the member registration processing by the live casting server 150 mentioned later, and will be referred to in the case of the reservation processing by the live casting server 150 mentioned later.

[0073] The NTP server 153 manages the time information in the equipment by the side of service providers, such as this server activity reservation management center 101, streaming server 102, etc., collectively, and the live casting server 150 and the streaming server 102 acquired the NTP server 153 to time information, and it has managed the start time and end time of live distribution based on the acquired time information. This has controlled operating on the basis of the time of day when the server activity reservation management center 101 which is equipment by the side of a service provider, and the streaming server 102 shifted mutually by unifying the time of day used as the criteria by the side of a service provider into one in consideration of offering the service which must operate under exact time control called live distribution. Moreover, if it is possible that the time of day of the user PC 106 who is equipment by the side of a user, and the time of day by the side of a service provider have shifted and a user's PC 106 user does not recognize this time-of-day gap, the live distribution start time and end time which a service provider side specifies, and the live distribution start time and end time by the side of a user which are recognized may shift. Therefore, in the reservation processing by the live casting server 150, although the user PC 106 is notified of the gap of this time of day, the time-of-day gap in this case is called for based on the time information which the live casting server 150 acquired from the NTP server 153.

[0074] A database server 155 is a server which performs authentication processing of whether PC accessed in response to the demand from the access server which the network 108 only for server connection does not illustrate is PC (namely, the user PC 106) which performed just reservation in this time zone, when the connection request for using the streaming server 102 is performed from PC of a user PC 106 or other inaccurate persons to the access port of the network 108 only for server connection. Moreover, in the above-mentioned authentication processing, when attested with it being just PC, communication link connection with the streaming server 102 and a user PC 106 will be established, and a user PC 106 will demand activation of stream message distribution processing from the streaming server 102. Under the present circumstances, the streaming server 102 requires authentication processing from a database server 155, in order that PC which has performed the distribution demand may attest whether it is PC which has just reservation. A database server 155 performs authentication processing whether it is PC which has just reservation, also when there is a demand from such a streaming server 102. These authentication processings are later mentioned about the detail of two above-mentioned authentication processings, although carried out by referring to the reservation database 151.

[0075] A-4. A streaming server, next the streaming server 102 shown in drawing 1 are servers which receive contents data, such as dynamic-image data transmitted through the network 108 grade only for server connection from the user PC 106 who has just reservation, as mentioned above, and carry out stream distribution of this contents data to the client PC 107 which performed the distribution demand through the Internet 103.

[0076] The streaming server 102 can carry out stream distribution of two or more contents simultaneously. That is, it has the composition of having two or more channels (system) so that two or more distribution persons can perform live distribution of contents in the same time zone using the streaming server 102. In this streaming server 102, the manpower which can be distributed for every channel, transmission bands (64kbps, 28.8kbps(es), etc.), a utilization tariff, etc. are set up beforehand, and the user who performs contents distribution using the streaming server 102 will choose the channel which should be reserved in consideration of the above-mentioned setting out.

[0077] Moreover, the streaming server 102 stores the commercial contents distributed to the time zone as for which reservation is vacant, the time amount between programs, etc., and performs message distribution processing of commercial contents in the above vacant time zones while it performs stream message distribution processing of the contents transmitted by the live distribution person of user PC106 grade, as mentioned above.

[0078] Moreover, although the streaming server 102 will control management of a distribution time zone, a limit of the more than client PC 107 to distribute, etc. according to the content of reservation permitted by the server activity reservation management center 101 to the user PC 106, it mentions later about these processings.

[0079] A-5. As shown in communication-path drawing 1 of the streaming server for performing live distribution, and User PC, the streaming server 102 is connected to the network 108 only for server connection, and as mentioned above, when performing live distribution, a user PC 106 will connect with the streaming server 102 through a telephone network 104 and the network 108 only for server connection. The network 108 only for server connection is a network of the dedication established in order to perform live distribution in the personal casting service offered by the contents distribution system 100 concerned.

[0080] Here, with this contents distribution system 100, although it is also possible to make communication link connection with the streaming server 102 and a user PC 106 through the Internet 103, in order to secure the transmission line and transmission band of contents data from the user PC 106 to the streaming server 102, the network 108 only for server connection for connecting with the streaming server 102 is formed. Thus, using the network of dedication is based on the following reasons. In order for a user PC 106 to access the Internet 103, it is necessary to connect with the Internet Service Provider (henceforth ISP) which the user PC 106 has made a contract of through a telephone network 104. Such ISP will receive not only the registration member of this personal casting service but the connection from many Internet users' PC. When many Internet users connect with the ISP concerned and have accessed the Internet 103, it will become impossible therefore, to secure a transmission band required in order that a user PC 106 may perform live distribution. moreover, a circuit is [a user PC 106] busy -- etc. -- it has been said that it is not connectable with ISP for a reason The channel of a desired bit rate must be certainly secured to desired time amount between the streaming servers 102, and if the above-mentioned problem arises, it will become impossible to offer normal service, in order to perform live distribution although the problem that the above connection environments get worse may arise in the data transmission which uses the Internet 103. Therefore, in the contents distribution system 100, it has prevented that the above problems arise by preparing the network 108 only for server connection, without using the Internet 103.

[0081] Here, the circuit of a large number linked to the streaming server 102 is prepared for the network 108 only for server connection. The number of circuit prepared for the network 108 only for server connection is more than the maximum number of users with which connection is permitted to the streaming server 102 in the same time zone (when for example, the number of the connection authorization maximum users is ten persons, a number of circuit is 20). This is based on the following reasons. PC which has required and carried out the connection request of the authentication processing to the database server 155 (refer to drawing 12) to PC with which the access server of the network 108 only for server connection has required connection as having mentioned above has attested [which has just reservation] whether it comes out. When it is judged that it does not have just reservation in this authentication processing, it is supposed that the call from PC which has carried out the connection request is cut promptly. Therefore, one circuit will become a busy while performing the above authentication processings, although an inaccurate person's PC cannot use the circuit of the network 108 only for server connection. When an inaccurate person does call origination of many numbers of the maximum users which permit connection, and numbers of circuit to prepare to it being the same simultaneously to the access port of the network 108 only for server connection for the purpose of active jamming of personal casting service etc., it will become impossible for this reason, to connect PC of the user who has just reservation. Therefore, it is reducing that service is barred by active jamming of an inaccurate person by preparing more [as mentioned above] numbers of circuit than the number of the maximum users.

[0082] Moreover, when connection with the streaming server 102 is permitted before predetermined time, this finishes connection processing of authentication etc. before distribution start time and it becomes reservation distribution start time from the distribution start time based on reservation, it

enables it to perform live distribution with this personal casting service. Therefore, when a different user's reservation time amount is continuing, the following problems may arise. The connection after going through the distribution initiation predetermined time front by the user who reserved connection of the user under distribution which reserved previous time amount, and next time amount laps, and it will become impossible that is, to be unable to cope with it in the number of circuit of only the number of the maximum users which can be distributed. Therefore, also when connection with the above reservation users of a previous time zone and the reservation user of a next time zone laps, it enables it to cope with it by preparing the number twice the number of circuit of of the maximum users as mentioned above.

[0083] moreover, you may make it the network 108 only for server connection for connecting with the streaming server 102 prepare an access port connectable from not only an access port but two or more telecommunications service operators' each network (for example, ISDN (Integrated Services Digital Network) and a migration telephone network) to one telecommunications service operator's (Carrier) network (for example, public telephone network) In this case, in a user PC 106 side, the telecommunications service operator who connects will be chosen, call origination will be carried out to the access port corresponding to the network of the telecommunications service operator concerned, and the communication link connection between the streaming servers 102 will be established through the network 108 only for server connection.

[0084] A-6. As client PC **** was carried out, stream distribution of the user PC 106 will be carried out through the Internet 103 to the client PC 107 to which the contents data transmitted to the streaming server 102 on real time gave the distribution demand to the streaming server 102. A client PC 107 can also perform a distribution demand from the Web page (refer to drawing 16) of the live casting server 150 mentioned above, can input URL of the streaming server 102 and can also give a direct distribution demand now to the streaming server 102. PC which gives a distribution demand to the streaming server 102 in this way, and receives the streaming distribution from the streaming server 102 with this operation gestalt shall be said. An application program for these clients PC 107 to carry out real-time playback of the contents data by which streaming distribution was carried out for example, "Real player" (RealNetworks) -- the contents data distributed by storing "Windows Media Player" (Microsoft Corp.) etc. and performing the application program concerned at the time of distribution -- real time -- reproducing -- **** -- things have come be made.

[0085] B. Explain various processing actuation of the contents distribution system 100 of the above-mentioned configuration for realizing actuation of a contents distribution system, next live casting service.

[0086] B-1. When the user of member registration **** and a user PC 106 performs live distribution using personal casting service, in order to get the access which performs live distribution in the service concerned, it is necessary to perform member registration to the live casting server 150 of the server activity reservation management center 101. Here, drawing 19 shows the user PC 106 at the time of performing this member registration, and the sequence flow chart of processing actuation of the live casting server 150. As shown in this drawing, in performing member registration, a user PC 106 accesses the Internet 103 and performs the access demand of a Web page to the live casting server 150 (refer to drawing 12) (step Sa1). Here, when a user PC 106 accesses the Internet 103, after supplying a power source to a user PC 106, the application program mentioned above is started first. And a user displays on a display 124 the screen shown in drawing 7 (a) by choosing Web check mode. In this Web check mode, an input etc. carries out URL for identifying the Web page of the live casting server 150, and a user performs an access demand.

[0087] Thus, if a user PC 106 performs the access demand of a Web page to the live casting server 150, a Web page will be transmitted to a user PC 106 through the Internet 103 from the live casting server 150 (step Sa2). The user PC 106 who received the transmitted Web page displays the Web page concerned on the browser display screen 44 (step Sa3).

[0088] At the time of such an access demand and Web page transmission, following actuation and processings are performed by the user PC 106 and the live casting server 150. First, if a user PC 106

inputs URL of the live casting server 150 and performs an access demand, the top page of the Web page which the live casting server 150 shown in drawing 13 stores will be displayed on the browser display screen 44. Here, in order to perform member registration, a user clicks "member registration." Thereby, a user's PC 106 CPU120 performs the access demand of the Web page for performing member registration to the live casting server 150 through the Internet 103 according to the click actuation concerned. And the Web page for member registration is transmitted from the live casting server 150, and CPU120 of the user PC 106 who received this displays the screen for member registration as shown in drawing 20 on the browser display screen 44.

[0089] As shown in drawing 20, the input column for inputting the item concerned as the subject name which should input for performing member registration is displayed on the screen for member registration. Here with this personal casting service With the general member who receives the service which receives the contents by which live distribution is carried out, the function 102, i.e., the streaming server, of the client PC 107 which was mentioned above Two kinds of member registration called the premium member who is on the distribution side which performs live distribution in addition to the above-mentioned service which carries out contents reception, and can use service is prepared. The input column 210 general and for premium common and the input column 211 only for premium members are displayed on the screen for member registration.

[0090] In this display screen, the user who registers only a general member like the user of a client PC 107 will input each item of the input column 210. Here, if Cancel button 212 which makes an invalid the inputted content, and the registration carbon button 213 which directs registration from the content of an input are displayed on the input screen for member registration and a user clicks the registration carbon button 213, the content inputted into the input column 210 by CPU120 will be transmitted to the live casting server 150 through the Internet 103 as information for registration.

[0091] On the other hand, when performing premium member registration, a user will check to a check box and will perform the input to each item of the input column 210 and the input column 211. When the input of each item by the user is completed and the registration carbon button 213 is clicked, and a user's PC 106 CPU120 The information file for registration of the same content as the content inputted into the above-mentioned input screen for member registration is created. While transmitting this to the live casting server 150 through the Internet 103 (step Sa4), the information file for registration concerned is written in the hard disk 123 in a user PC 106, and is memorized.

[0092] It distinguishes whether the live casting server 150 receives the information file for registration created according to user's PC 106 user's content of an input as mentioned above through the Internet 103, checks the content of the information file for registration which received, and permits registration (step Sa5). The content of processing here is as follows. First, there is no information about a certain item, that is, when the user has not inputted about the item, a user PC 106 side notifies that and reinput is urged. Moreover, the live casting server 150 accesses the credit check server of a credit firm through the Internet 103, confirms whether the credit card in the information file for registration is effective, and only when the credit card concerned is effective, it permits registration.

[0093] In permitting registration, the live casting server 150 writes the information on each item in the above-mentioned information file for registration in the user database 152, and performs registration processing (step Sa6). Moreover, in registration processing of a premium member, the Web page of the "my channel" corresponding to the registered user concerned is created, and it stores in a hard disk.

[0094] After such registration processing is completed, the live casting server 150 notifies a user PC 106 of registration processing having been completed through the Internet 103 (step Sa7), and member registration processing ends it.

[0095] B-2. After carrying out distribution reservation **** and completing member registration processing [like], a user's PC 106 user can become the distribution side which performs live distribution using personal casting service, and distribution reservation will be carried out to the live casting server 150 for performing live distribution actually. With this personal casting service, once a user performs reservation registration to the live casting server 150, when a user performs reconfirmation (reconfirmation of reservation) to the live casting server 150 even before the

predetermined time of the reserved live distribution time amount (for example, 6 hours before), reservation is approved. Thus, by imposing a duty of reconfirmation upon the user who reserved, performance establishment of reservation is raised and empty reservation is reduced. Furthermore, with this personal casting service, the number of the maximum coma (it is 10 minutes for example, about one coma) which the registered user can reserve in one month is set up, and it has inhibited that the service concerned will be in an oligopoly condition by a small number of user by this.

[0096] B-2-1. Explain below reservation registration, referring to the display screen of drawing 21 and User PC 106 who showed the sequence flow chart of the processing actuation concerned etc. about the user PC 106 at the time of performing reservation registration in such distribution reservation, and processing actuation of the live casting server 150.

[0097] As shown in this drawing, when performing distribution reservation, a user starts the application program mentioned above, after supplying a power source to a user PC 106. And a user displays on a display 124 the screen shown in drawing 8 (a) by choosing live reservation mode. In this live reservation mode, a user operates actuation dial 126b etc. and makes a selection decision of the "reservation jump" which is the selections of GUI. Thereby, a user's PC 106 CPU120 performs the access demand of the Web page (Web page when "live distribution reservation" of drawing 13 is clicked) for performing connection processing to the Internet 103 and performing distribution reservation to the live casting server 150 (step Sb1). Thus, although the access demand of the Web page for performing distribution reservation by making a selection decision of "the reservation jump" by the function realized by the above-mentioned application program can be performed in a user PC 106, the access demand of the Web page concerned can also be performed by inputting URL. The access demand of the homepage which inputs URL and is specifically shown in drawing 13 can be performed, the input of user ID and a password can be performed, it can log in, and the access demand of the Web page for performing distribution reservation by actuation of clicking the link carbon button of "live distribution reservation" can be carried out.

[0098] Thus, if a user PC 106 performs the access demand of the Web page for distribution reservation to the live casting server 150, a Web page will be transmitted to a user PC 106 through the Internet 103 from the live casting server 150 (step Sb2). The user PC 106 who received the transmitted Web page displays the Web page concerned on the browser display screen 44 (step Sb3).

[0099] Here, drawing 22 shows the Web page for distribution reservation displayed on the browser display screen 44. As shown in this drawing, on this display screen, the month-long calender column 220, the reservation situation-display column 221 which shows the reservation status of the date by which it was indicated by void to the calender concerned, the input column 222 for reservation as which the item and the input column which should be inputted for a user to reserve are displayed, the reservation carbon button 223 which directs the application of reservation, and Cancel button 224 carry out the content of the input column 222 for reservation of an input to an invalid are displayed.

[0100] In this display screen, a user clicks the day which wishes the reservation in the month-long calender column 220. Thereby, a user's PC 106 CPU120 requires the data for displaying the reservation status of the date concerned of the live casting server 150 through the Internet 103 while indicating the clicked date by void. The data for creating data for the carrier beam live casting server 150 displaying the reservation status of that date in this time for this demand by referring to the content of registration of the reservation database 151, and displaying the demanded reservation status of the date are transmitted to a user PC 106 through the Internet 103. A user's PC 106 CPU120 displays the reservation situation display column 221 based on this data.

[0101] The number of riding capacity which can be distributed, the transmission band to be used, a toll, and the reservation status ("empty" or settled ["settled"]) for every time of day are displayed on the reservation situation display column 221 for every channel like a graphic display, and referring to this reservation situation display column 221, a user determines a channel, a time zone, etc. and inputs each item of the input column 222 for reservation. The number of riding capacity in which the above-mentioned distribution is possible, the transmission band, and the toll are beforehand set up for every channel here, and the user of the user PC 106 who is a contents distribution person can choose the

channel corresponding to a toll which met hope by referring to the information set up beforehand, the number of riding capacity, etc. for every channel displayed on the reservation situation display column 221.

[0102] The item which should be inputted in the input column 222 for reservation here The "channel" which chooses the channel to be used, the "reservation time" which specifies the time to reserve, "Open level", the "title" which inputs the title name of contents, The "genre" which inputs the genre to which contents belong, "electronic mail disclosure" which chooses the existence of disclosure a contents provider's e-mail address, "WEB disclosure" which chooses the existence of disclosure of URL a contents feeder's Web page, They are items, such as the "password" and the "friend list" which enter a password, an "outline" which writes in the outline of contents within predetermined number of letters (for example, 20 characters), and a "detail" which writes in the detail of contents within predetermined number of letters (for example, 200 characters).

[0103] The input item "open level" in the input column 222 for reservation is an item as which the user who is a contents feeder specifies constraint of the open level of the contents supply distributed based on this reservation, i.e., the distribution place of contents, and can specify now three level, such as "Public", "Password", and "Secret", here.

[0104] When it specifies exhibiting "Public" thoroughly and "Public" is specified, if it is those who are doing general member registration which mentioned above, offer of the contents by the contents distribution based on the reservation concerned can be received (however, less than the number of riding capacity).

[0105] "Password" is the open level from which only those who restrict those who can receive the contents supply based on the reservation concerned, and performed the just password input can receive contents distribution. When a user chooses "Password", it is necessary to enter the password used in that case.

[0106] Next, it is the open level to which "Secret" permits contents distribution only to those who performed the just password input like the above "Password." Also when a user chooses "Secret", it is necessary to enter the password used in that case. Here, when "Password" or "Secret" is chosen, the information on the distribution time amount of the program concerned, the above-mentioned password, etc. is notified to the e-mail address specified as the "friend list" mentioned later.

[0107] Moreover, at the point that "Password" and "Secret" permit only a specific person contents supply, although it is the same, it is not exhibiting "Secret's" not being carried by the above-mentioned Web page to the program based on this reservation being carried by "today's live" mentioned above and the Web page of a "program guide", but contents supply being performed itself, when both point of difference chooses "Password." When "Secret" is chosen, only those who have the e-mail address carried by the "friend list" mentioned later will be notified of there being the contents distribution.

[0108] A user chooses either of three open level called "Public", "Password", and "Secret" which were mentioned above, and has come to be able to carry out the thing of it in consideration of the content of the contents to distribute etc. When this is made full disclosure, it becomes impossible for example, for the above-mentioned specific person to receive distribution of the contents concerned for the distribution demand of those other than the above-mentioned specific person in a carrier beam case by riding-capacity limit, although it is economically desirable to choose a channel (low tariff) with few riding capacity to perform contents distribution to specific a small number of people. Therefore, in such a case, contents distribution can be performed to a specific person by choosing "Password" and "Secret" certainly and economically.

[0109] The input item "a friend list" in the input column 222 for reservation is a column which inputs the e-mail address of those who expect that a user's PC 106 user notifies performing contents distribution by the time zone based on the reservation concerned, or the channel. Here, although the live casting server 150 will transmit an electronic mail including the various information for receiving offer of contents distribution based on the reservation concerned to the inputted e-mail address, it mentions later about this to it.

[0110] If the input of each item of the above input columns 222 for reservation is completed and the

reservation carbon button 223 is clicked, a user's PC 106 CPU120 will create the information file wishing reservation of the same content as the content of an input of the input column 222 for reservation, and will transmit this information file wishing reservation to the live casting server 150 through the Internet 103 (step Sb4). In addition, although made in the example shown in drawing 22 as [perform / when a user operates a keyboard etc. in each column of the input column 222 for reservation and inputs an alphabetic character etc. into it / an input] When a selection candidate is displayed with a pull down menu and a user does selection assignment out of the displayed candidate, you may enable it to perform an input about the item the contents which can be inputted beforehand, such as a "channel", "reservation time", and the "genre", are decided to be.

[0111] The live casting server 150 receives the information file wishing reservation created according to user's PC 106 user's content of an input as mentioned above through the Internet 103, and transmits the Web page for reconfirming whether the content of the information file wishing reservation which received is sufficient (step Sb5). The display for which this urges the check of the information wishing reservation as shown in drawing 23 to a user's PC 106 display screen is made. Under the present circumstances, the display of the utilization tariff of the service based on the reservation concerned, a check of the e-mail address (e-mail address as which this e-mail address was inputted into the user at the time of member registration) of the transmission place of reservation setting-out information which transmits to a user PC 106 from the live casting server 150 behind, etc. is also made. Moreover, as mentioned above, a duty is imposed so that the user who reserved live distribution may reconfirm even before the predetermined time of the distribution time amount based on the reservation concerned (for example, 6 hours before), and the message for telling a user about the activation procedure of that and reconfirmation is also expressed as this personal casting service.

[0112] Here, if the content displayed on the above-mentioned check screen is sufficient, a user clicks the comprehension carbon button 240, and when not good, he will click Cancel button 241 from the content displayed on the above-mentioned check screen. If Cancel button 241 is clicked, that is transmitted to the live casting server 150, the screen for a reservation input shown in drawing 22 will be displayed on a user's PC 106 display screen, and the live casting server 150 will urge an input for the second time to it while canceling the information file wishing reservation concerned. On the other hand, a click of the comprehension carbon button 240 transmits that to the live casting server 150 through the Internet 103 by CPU120 (step Sb6).

[0113] When the comprehension carbon button 240 is clicked, it distinguishes whether the live casting server 150 checks the content of the information file wishing reservation, and permits reservation (step Sb7). Here, it is confirmed whether the check of the check with the reservation time zone of choice of the channel of choice there is no lack in the content of an input, or vacant etc. is performed, and the user who has demanded the reservation concerned further omits reservation more than the number of setting-out coma. It is as having mentioned above that the number of the maximum coma (it is 10 minutes for example, about one coma) which the registered user can specifically reserve with this live casting service in one month is set up. Therefore, it distinguishes whether the check of whether to permit reservation here has more coma which this user has already reserved in one month than the above-mentioned number of setting-out coma, and in [than the number of setting-out coma] more, it does not permit reservation. On the other hand, in being fewer than the number of setting-out coma, the check result concerned distinguishes having no problem, and reservation is permitted when there is no problem in other check results. Thus, in order to check a user's number of reservation coma for one month, for each [by which premium member registration is carried out] user of every, at least, in the past one month, the reservation status by the present goes back and was memorized by the user database 152.

[0114] In permitting reservation, the live casting server 150 While creating the reservation ID used only for the authentication at the time of reservation performance about the reservation concerned The content information of reservation which contains the mail address of a reservation time zone, the channel to be used, an activity band (bps (bit per second)), and a friend list etc. based on the content of the above-mentioned information file wishing reservation, The reservation ID created with the user ID for identifying the user who reserved is written in and registered into the reservation database 151 (refer

to drawing 18) (step Sb8). In addition, at this reservation registration event, the accounting flag information which shows whether it can charge or not serves as accounting "improper", and this accounting flag is rewritten by "it is good", when reconfirmation is performed behind and reservation is approved. Moreover, the live casting server 150 adds and writes the information about the reservation concerned in the Web page of the "my channel" corresponding to the user who reserved. Moreover, when the above-mentioned open level in the reservation concerned is "Public" or "Password", the live casting server 150 updates a Web page, in order to carry the program based on this reservation to "today's live" mentioned above and the Web page of a "program guide." That is, it memorizes possible [access] that contents distribution based on the above-mentioned reservation is performed. In this case, the Web page concerned can be perused from client terminal unit 107 grade through the Internet 103, and the purport to which live distribution based on the reservation concerned is carried out can be known. That is, also when "Public" is set up and "Password" is set [not to mention] up, the Web page by which it was carried that live distribution based on the reservation concerned is performed is made possible by access, and the 3rd person of arbitration can know a purport with the live distribution concerned. On the other hand, when "Secret" is set up, no live casting server 150 is carried to "today's live" which mentioned above the information about the live distribution performed based on this reservation, and the Web page of a "program guide." Therefore, about the live distribution to which "Secret" was set, only specific men, such as those who received and perused the electronic mail transmission mentioned later, can know that live distribution will be performed now.

[0115] After such reservation registration processing is completed, the Web page which displays management, a prohibition matter, etc. of the copyright at the time of using the service concerned, and stimulates a user's acceptance is transmitted to a user PC 106, and it is made to display on a user's PC 106 display screen. And when directions of the purport on which it agrees from a user PC 106 are transmitted, the live casting server 150 transmits the Web page which tells completion of the reservation procedure except reconfirmation to a user PC 106. Here, drawing 24 shows the completion screen of a reservation procedure displayed on a user's PC 106 display screen. As shown in this drawing, the message to which it urges reconfirming to a user is displayed on this completion screen of a reservation procedure. Here, if the "O.K." carbon button 245 is clicked, the reservation procedure concerned except reconfirmation will be completed and an electronic mail including the reservation ID created by the live casting server 150 about the reservation concerned will be transmitted to a user PC 106 after this (step Sb9).

[0116] B-2-2. When a user needs to reconfirm even before 6-hour reservation performance time amount in this personal casting service as reconfirmation **** was carried out, and reconfirmation is not performed, that reservation is canceled compulsorily. Therefore, in order to establish reservation, the user who acquired Reservation ID will reconfirm using a user PC 106 with the electronic mail from the above-mentioned live casting server 150. In addition, although it is also possible to use PC used for live distribution and a different PC, a reservation procedure until it receives the reservation ID mentioned above It is obliged to use PC used as a PC which reconfirms in case live distribution is performed, and sets to the following explanation. It explains referring to drawing 25 about the user PC 106 at the time of reconfirming by reconfirming using a user PC 106, and processing actuation of the live casting server 150.

[0117] In reconfirming, a user starts the application program mentioned above, after supplying a power source to a user PC 106 (when a power source is OFF). And a user displays on a display 124 the screen shown in drawing 8 (a) by choosing live reservation mode. In this live reservation mode, a user makes a selection decision of the reservation which performs reconfirmation among the reservation lists which operate actuation dial 126b etc. and are displayed on the reservation list display area 46 (there is also a case). Thereby, a user's PC 106 CPU120 performs connection processing to the Internet 103, and performs the access demand of the Web page of the "my channel" corresponding to the user concerned to the live casting server 150 (step Sb10). Thus, although the function realized by the above-mentioned application program can perform the access demand of the Web page for performing distribution reservation in a user PC 106, the access demand of the Web page concerned can also be performed by

inputting URL suitably. The access demand of the homepage which inputs URL and is specifically shown in drawing 13 can be performed, the input of user ID and a password can be performed, it can log in, and the access demand of a Web page can be performed by actuation of clicking the link carbon button of a "my channel."

[0118] Thus, if a user PC 106 performs the access demand of the Web page of a "my channel" to the live casting server 150, a Web page will be transmitted to a user PC 106 through the Internet 103 from the live casting server 150 (step Sb11). The user PC 106 who received the transmitted Web page displays the Web page concerned on the browser display screen 44 (step Sb12).

[0119] Here, drawing 26 shows the Web page of the "my channel" displayed on the browser display screen 44. The reservation list 250 which is the list of the reservation which the user is performing in this display screen to the current live casting server 150 as shown in this drawing, The link carbon button 251 for jumping to a Web page for a user checking the number of viewers of the program distributed in the past etc., The link carbon button 252 for jumping to the Web page for changing the information file for registration of the user concerned (referring to drawing 20) registered into the user database 152 is displayed. Moreover, description explaining the cancellation approach and the modification approach of reservation is displayed, with this personal casting service, when changing the contents of reservation, such as a channel and time, it is necessary to perform the procedure which once cancels reservation and processes distribution reservation again, and that is described. On the other hand, it can change now about information other than channels, such as a title name and an outline, and time, without performing reservation cancellation.

[0120] "cancellation" carbon button clicked when directing the status item as which the condition that only one the case of a graphic display -- reservation -- was referred to as whether "reservation time", a "channel", a "title", and this reservation are in the condition of "the waiting for reconfirmation" or to be in "the condition of having reconfirmed" is displayed, and reservation cancellation for every reservation is displayed on the reservation list 250.

[0121] Although "a reconfirmed display" will be made when "the waiting for reconfirmation" was displayed on the item of the status like [when reconfirmation is not performed about the reservation concerned] a graphic display here, and the page concerned is displayed after reconfirmation was performed In the case of "the waiting for reconfirmation", a click of this transmits the access demand of the screen for reconfirmation through the Internet 103 at the live casting server 150 by CPU120. The live casting server 150 transmits the Web page for reconfirmation to a user PC 106 through the Internet 103 according to this demand, and a screen display as shown in drawing 27 is made by the user PC 106.

[0122] As shown in this drawing, the content of the items, such as the "user ID" set up about the reservation concerned, a "channel", "reservation time", "open level", a "title", a "genre", "electronic mail disclosure", "Web disclosure", a "password", a "friend list", an "outline", and a "detail", is displayed on the screen for reconfirmation. Moreover, the column which inputs Reservation ID, and the message to which it urges reconfirming by inputting Reservation ID into a user are displayed on this display screen.

[0123] When reconfirming, a user inputs the reservation ID included in the electronic mail transmitted from the live casting server 150 in the reservation procedure mentioned above, and clicks the reconfirmation carbon button 261. On the other hand, in returning to the screen of a my channel on which the reservation-list 250 grade (refer to drawing 26) was displayed, it clicks the returning carbon button 262.

[0124] The message which urges performing Response PC, i.e., live distribution, with PC which reconfirms by setting automatically the setting-out information for establishing the communication link connection between the streaming servers 102 in case live distribution is performed as PC to it here when the reconfirmation carbon button 261 is clicked in the display screen for reconfirmation shown in drawing 27 is displayed.

[0125] If the above-mentioned reconfirmation carbon button 261 is clicked, a user's PC 106 CPU120 will transmit the purport which had activation directions of reconfirmation by the user to the live casting server 150 through the Internet 103 (step Sb13).

[0126] The live casting server 150 which received the reconfirmation activation directions transmitted

by the user PC 106 as mentioned above creates the reservation setting-out information file shown in drawing 28 about this reservation with reference to the reservation database 151 or the user database 152 (step Sb14). Here, when the live casting server 150 becomes 6 hours before the distribution start time based on the reservation among the information about each reservation registered into the reservation database 151, it eliminates the data about the reservation from the reservation database 151, and it cancels the reservation concerned. That is, the data about the reservation in the reservation database 151 will be eliminated after the event of 6-hour before of the distribution start time based on a certain reservation passing. Therefore, when the activation directions of reconfirmation mentioned above after 6 hours before distribution start time are received by the live casting server 150, even if it refers to the reservation database 151, the data about the reservation concerned will be registered. In this case, the live casting server 150 "since reconfirmation was not performed, reservation was canceled. In reserving, please perform a distribution reservation procedure again. The Web page for displaying messages, such as ", is transmitted to a user PC 106.

[0127] On the other hand, when the live casting server 150 receives reconfirmation activation directions 6 hours before distribution start time, reservation setting-out information is created by the live casting server 150. As shown in drawing 28, information, such as "Reservation ID", "live distribution reservation time", "server connectable time amount", "the telephone number for connection", "connection place server information", "distribution demand place address information", a "transmission band", a "title", an "outline", "open level", "friend list address information", and a "distribution demand password", is included in the reservation setting-out information file created by the live casting server 150.

[0128] The reservation ID created about the reservation concerned mentioned above is described by "Reservation ID", and the distribution start time and end time which were reserved are described by "live distribution reservation time." Information to which the time zone which permits connection to the streaming server 102 is described in order that "server connectable time of day" may perform live distribution, connection of the streaming server 102 is permitted to from three quotas of distribution start time in this example, and connection until after [of distribution end time] 3 minutes is permitted is described.

[0129] The telephone number of the access port of the network 108 only for server connection for connecting with the streaming server 102 is described by "the telephone number for connection", and the telephone number of the access port for every telecommunications service operator of plurality (a graphic display is four) is described by this example. A user chooses one of telecommunications service operators as processing which is mentioned later and which makes connection with the streaming server 102 actually, and processing which carries out call origination to the telephone number of the selected access port for telecommunications service operators is carried out to it.

[0130] It is the item according to the channel chosen by this reservation determined, and the information on "a class of server", "Server Name", a "connection port", "stream pass to a server", etc. which are connected in case the channel concerned is used is described by "connection place server information." When the communication link connection between a user PC 106 and the access port of the network 108 only for server connection is established, connection processing for using the channel which the streaming server 102 reserved based on the content of description of this "connection place server information" will be performed.

[0131] The URL information used in order to connect "distribution demand place address information" to the streaming server 102, when a client PC 107 requires stream distribution of the contents which a user PC 106 transmits to the streaming server 102 is described. What is necessary is just to connect a client PC 107 to the streaming server 102 through the Internet 103 using the URL concerned, when performing the distribution demand of contents.

[0132] The information determined as a "transmission band" according to the reserved channel is described, and the information on the transmission band beforehand set as reservation channels, such as 64kbps and 28.8kbps(es), is described. The content registered at the time of reservation, respectively is described by a "title", an "outline", and "open level" (refer to drawing 22 and drawing 23). The e-mail

address registered at the time of reservation is described by "friend list address information."

[0133] Although the password information registered into the "distribution demand password" at the time of reservation is described, since a distribution requestor side can perform a distribution demand, without performing a password input when "open level" is "Public", the information on a "distribution demand password" is not included in a reservation setting-out information file in this case.

[0134] Thus, the information on the telephone number for establishing the communication link connection with Reservation ID and the streaming server 102 which are used for the authentication in the case of the connection of the streaming server 102 mentioned later, the connection port of a server, etc. is included in the reservation setting-out information file created by the live casting server 150. The command information which directs the message indicator which notifies that the command information for writing in automatically and making it incorporate and the automatic incorporation concerned ended the reservation setting-out information file concerned normally to the predetermined field created on a user's PC 106 hard disk 123, or the reservation setting-out information file went wrong on this occasion although transmitted to a user PC 106 through the Internet 103 from the live casting server 150 is included. Thus, what is necessary is just to use the technique of "ActiveX" (trademark of Microsoft Corp.) as a technique of incorporating automatically the file which transmitted from the live casting server 150 which is a distribution side to the user PC 106 of a receiving side. To use this technique, a user PC 106 needs to use "Internet Explorer (Microsoft Corp.)" which can use the above "ActiveX" as browser software.

[0135] The live casting server 150 which created the reservation setting-out information file containing above various data and commands by text data etc. enciphers this file using cipher systems, such as DES (Data Encryption Standard), and transmits the encryption file concerned to a user PC 106 through the Internet 103 with the Web page which displays the completion screen of reconfirmation (step Sb15).

[0136] When the reservation setting-out information file and Web page which were enciphered from the live casting server 150 as mentioned above are transmitted, 120 of a user PC 106 A reservation setting-out information file is decoded using the technique of "ActiveX" which received and mentioned this above. While incorporating automatically to the predetermined field of a hard disk 123 according to the command contained in the file concerned (step Sb16), the completion screen of reconfirmation is displayed on the browser display screen 44 (step Sb17). Therefore, the program which decodes a code which was mentioned above is stored in the user PC 106, and this program is performed at the time of decode of the above-mentioned reservation setting-out information file. Moreover, in case CPU120 writes a reservation setting-out information file in a predetermined field, a program which is enciphered and written in with predetermined cipher systems (DES etc.) is stored in the user PC 106, and reservation setting-out information will be enciphered and saved by this program execution. Therefore, the user is usually made as [said / it / that the content of the reservation setting-out information file concerned incorporated automatically was displayed, and it referred to]. It can reduce that unjust access will be performed to the access port of the network 108 only for server connection by this for it being controlled that the access port number of the network 108 only for server connection is carelessly known by many men, and blocking the service concerned etc.

[0137] Here, drawing 29 shows the completion screen of reconfirmation displayed on the browser display screen 44 as mentioned above. As shown in this drawing, the current time by the side of a service provider and a user's PC 106 time of day are displayed on this screen. Here, the time of day by the side of a service provider is the time information acquired from the NTP server 153, in case the live casting server 150 transmits the Web page concerned. On the other hand, current time with the clock which a user PC 106 has is displayed on a user's PC 106 time of day. And a user's PC 106 CPU120 computes the difference (minute unit) of such time of day, and when there is a time-of-day gap, it displays the message of the purport which has a gap like a graphic display. In addition, although a user's PC 106 user is notified of the time-of-day gap by the side of a service provider in this way and you may make it urge caution The time correction program which amends a user's PC 106 time of day automatically based on the time information by the side of the service provider transmitted to the user PC 106 with the Web page as mentioned above is made to store. When a user PC 106 receives the Web

page of the completion screen of reconfirmation as mentioned above, you may make it CPU120 amend a user's PC 106 time of day by performing a time correction program according to the time of day by the side of a service provider. This becomes that in which the time of day by the side of a service provider and the time of day by the side of a user PC 106 were common, and it becomes possible to advance smoothly service as which the accuracy of the time amount of live distribution is required.

[0138] Moreover, the special case matter in the case of connecting with the completion screen of reconfirmation in the network 108 only for server connection using a dial-up router is described. In the user PC 106, in order to perform live distribution, when performing communication link connection processing with the streaming server 102, it is set up so that call origination may be automatically carried out to the access telephone number to the access port of the network 108 only for server connection described by the reservation setting-out information file mentioned above (it mentions later for details). Thus, communication link connection processing can be performed automatically, without performing troublesome alter operation called the input of the telephone number in a user when CPU120 is made to perform the program which carries out call origination automatically. However, when a user PC 106 is connected to a network through a dial-up router, it is necessary to set up the information for connecting with the network 108 only for server connection through a dial-up router. Therefore, since processing in which call origination is automatically carried out based on the telephone number described by the reservation setting-out information file cannot be performed, a user needs to set up the telephone number of an access port etc. manually. The above-mentioned special case matter is the description which needs to perform manual setting and which carried out thing consideration, when using such a dial-up router, and the access port number for having a user do manual setting in this case, a login ID (reservation ID in this case), and a password are displayed. In addition, only in via ISDN (Integrated Services Digital Network), the connection using a dial-up router is permitted in the example of a graphic display, but it is not limited to this.

[0139] If the display of the above-mentioned reconfirmation screen is checked by the user and the "O.K." carbon button 291 is clicked by him, the information which shows the purport by which the "O.K." carbon button 291 was clicked will be transmitted to the live casting server 150 through the Internet 103 by CPU120 (step Sb18), and the processing about the reconfirmation by the side of a user will be completed. On the other hand, the "O.K." carbon button 291 is clicked and the electronic mail which notifies that the live casting server 150 which received that has live distribution in the e-mail address registered into the "friend list" about the reservation concerned with reference to the reservation database 151 is transmitted (step Sb19). Here, drawing 3030 shows the content displayed on the display screen of the PC, when the electronic mail concerned is opened. As shown in this drawing, when "live distribution time", a "title", an "outline", "URL of a distribution demand place" (refer to "distribution demand place address information" of drawing 28), and open level are "Password" and "Secret", the information on the "password" (refer to the "distribution demand password" of drawing 28) etc. for a distribution demand is displayed on this electronic mail. Thereby, a user's PC 106 user can notify the information for receiving live distribution in the friend automatically, if e-mail addresses, such as a friend who wants to show live distribution at the time of reservation, are registered. Therefore, the complicated activity of the user who performs live distribution telling the information for receiving live distribution by telephone, or creating an electronic mail including the information concerned becomes unnecessary.

[0140] In addition, in the above-mentioned explanation, although it is made to perform transmitting processing of the above-mentioned electronic mail (refer to drawing 30) to the e-mail address registered into the "friend list" after the completion of reconfirmation, when the reservation registration processing (step Sb8 of drawing 21) by the reservation database 151 based on the file wishing reservation from a user ends, it may be made for the timing of the above-mentioned electronic-mail transmission by the live casting server 150 to carry out. Thus, it is at the reservation registration processing termination event, and if an electronic mail is transmitted, those who have an e-mail address can know that there is live distribution, when earlier. Moreover, it is in this case at the completion event of reconfirmation, and may be made to perform same electronic mail transmitting processing again.

[0141] Moreover, while performing electronic mail transmission as mentioned above, after the processing about reconfirmation is completed, the reservation concerned should be approved, and the live casting server 150 rewrites the accounting flag information on the reservation database 151 about this reservation "for it to be good", and performs accounting about the reservation concerned. Here, the accounting amount of money will be computed based on the toll beforehand set up for every channel as mentioned above. For example, when the reservation which uses six coma of channels to which the 100 yen toll is set with one coma (10 minutes) is approved, 600 yen accounting will be made about the reservation concerned. However, actual accounting is performed after it is checked that the streaming server 102 is operating normally at live distribution that day.

[0142] In addition, in the above-mentioned explanation, although the case where the user PC 106 who stores the program which enciphers the reservation setting-out information file transmitted from the live casting server 150, and is stored automatically was used was explained, the above automatic incorporation cannot be performed with PC which does not store such a program. In such a case, he is trying to incorporate a reservation setting-out information file to the PC side by the following technique. First, in the case of PC which does not store the above programs, automatic incorporation cannot be performed, but what automatic incorporation went wrong is displayed on the display screen of the PC. The message which directs in addition to the message which notifies having failed to return to a my channel (to refer to drawing 26) again, to click the waiting for reconfirmation, and to perform the access demand of the screen for reconfirmation again is displayed on the display screen of having failed. On the other hand, after transmitting the Web page of the completion screen of reconfirmation mentioned above to a user PC 106 O.K.] is not transmitted. The demand of the screen for reconfirmation from a user PC 106 The reconfirmation check from a user PC 106 "the carrier beam live casting server 150 It judges with the user PC 106 having failed in automatic incorporation of a reservation setting-out information file, and the Web page for downloading a reservation setting-out information file is transmitted to a user PC 106 through the Internet 103. Consequently, the Dow-Jones load carbon button of a reservation setting-out information file is displayed on the display screen by the side of PC, and download of a reservation setting-out information file is performed to it by clicking the carbon button concerned.

[0143] Although what was explained above is the flow of the distribution reservation processing actuation from the demand of reservation to the reservation formation by the completion of reconfirmation, also after reconfirmation is completed in this way, about information, such as a genre and an outline, changing is possible, and it is possible also in canceling reservation after the completion of reconfirmation (in this case, since the above-mentioned accounting flag information is "good", accounting is performed.). Hereafter, the processing actuation in the case of performing such modification and cancellation is explained, referring to the content of a display of the browser display screen 44 displayed on a user's PC 106 display 124.

[0144] First, in performing modification or cancellation of reconfirmed reservation, it performs actuation for performing the access demand of the Web page corresponding to a "my channel" like the time of performing reconfirmation mentioned above. Thereby, a user's PC 106 CPU120 performs connection processing to the Internet 103, and performs the access demand of the Web page of the "my channel" corresponding to the user concerned to the live casting server 150.

[0145] Thus, if a user PC 106 performs the access demand of the Web page of a "my channel" to the live casting server 150, a Web page will be transmitted to a user PC 106 through the Internet 103 from the live casting server 150. The user PC 106 who received the transmitted Web page displays the Web page concerned on the browser display screen 44.

[0146] Here, drawing 31 shows the Web page of the "my channel" displayed on the browser display screen 44. [finishing / reconfirmation] If the display screen of the "my channel" shown in this drawing is compared with the display screen (refer to drawing 26) of the "my channel" of the waiting for reconfirmation, in the screen [finishing / reconfirmation], it differs the point displayed "finishing [reconfirmation]" on the status item of a reservation list 250, and in that the link carbon button 310 "modification" is displayed. [finishing / reconfirmation]

[0147] When changing, the link carbon button 310 of the "modification" concerned will be clicked. If

the link carbon button 310 of "modification" is clicked, a user's PC 106 CPU120 will transmit through the Internet 103 that the link carbon button of "modification" was clicked to the live casting server 150. Thereby, the screen which the live casting server 150 transmits the Web page for modification to a user PC 106 through the Internet 103, consequently is shown in a user's PC 106 browser display screen 44 at drawing 32 is displayed.

[0148] The content of reservation by which current setting out is carried out is displayed on the screen for modification, it can change among these contents of a display about items, such as a "genre", "electronic-mail disclosure", "Web disclosure", a "password", an "outline", and a "detail", and it is made to differ from the items (reservation time etc.) which cannot change the foreground color of the item which can be changed in the case of this display, as shown in this drawing.

[0149] About the item which wishes to change, a user overwrites the content after changing into the content of setting out by which it is indicated by current, and clicks the updating carbon button 321. In addition, in not changing, it clicks the returning carbon button 322.

[0150] And if the updating carbon button 321 is clicked by actuation of a user, a user's PC 106 CPU120 will create the information file of the content of modification concerned, and will transmit this to the live casting server 150 through the Internet 103. Thereby, the live casting server 150 transmits the Web page of the completion screen of modification to a user PC 106 through the Internet 103 while updating the content of registration of the reservation database 151 based on the information file of the content of modification concerned. Consequently, the screen shown in drawing 3333 is displayed on a user's PC 106 browser display screen 44.

[0151] As shown in this drawing, in addition to the message which shows that modification was received, the special case matter at the time of a mutual time-of-day gap etc. being displayed as service provider side time of day and the time of day by the side of a user PC 106, and using a dial-up router is displayed on the completion screen of modification like the completion screen of reconfirmation (refer to drawing 30) mentioned above. Here, if the "O.K." carbon button 331 is clicked, modification will be completed and it will return to the screen of the "my channel" shown in drawing 31 .

[0152] Thus, if reservation is changed, the live casting server 150 will transmit the electronic mail containing that reservation was changed and messages, such as the content of modification, to the e-mail address registered into the friend list mentioned above. Even if it does not do the activity of telling by telephone the content of reservation of live distribution of a user's PC 106 user having been changed by this, or creating the electronic mail containing a message to that effect, those who have the e-mail address of the friend list concerned can be automatically told about the content of a reservation change of live distribution.

[0153] Next, the case where reservation is canceled is explained. Also in this case, actuation for performing the access demand of the Web page corresponding to a "my channel" is performed like the reconfirmation mentioned above or the case where it changes. The "my channel" screen [finishing / reconfirmation] which this indicates at drawing 31 mentioned above to the browser display screen 44 is displayed.

[0154] When canceling reservation, a user will click the "revocatory" link carbon button 311. If the "revocatory" link carbon button 311 is clicked, a user's PC 106 CPU120 will transmit through the Internet 103 that the "revocatory" link carbon button was clicked to the live casting server 150. Thereby, the screen for cancellation which the live casting server 150 transmits the Web page for cancellation to a user PC 106 through the Internet 103, consequently is shown in a user's PC 106 browser display screen 44 at drawing 34 is displayed.

[0155] As shown in this drawing, while the content of reservation by which current setting out is carried out is displayed, the "reservation cancellation" carbon button 341 and the carbon button 342 "returning" are displayed on the screen for cancellation. Here, a user clicks the carbon button 342 clicks the "reservation cancellation" carbon button 341 in canceling reservation, and "returns" in not canceling.

[0156] And if the "reservation cancellation" carbon button 341 is clicked by actuation of a user, a user's PC 106 CPU120 will transmit the purport which cancels this reservation to the live casting server 150 through the Internet 103. Thereby, the live casting server 150 transmits the Web page of the completion

screen of cancellation to a user PC 106 through the Internet 103 while eliminating the content of registration of the reservation database 151 about this reservation. Consequently, as shown in drawing 35, the message which notifies having been canceled is displayed on a user's PC 106 browser display screen 44. Here, if the "O.K." carbon button 343 is clicked, cancellation will be completed and it will return to the screen of the "my channel" shown in drawing 3131.

[0157] Thus, if reservation is canceled, the live casting server 150 will transmit the electronic mail containing the message of the purport that reservation was canceled and live distribution was stopped to the e-mail address registered into the friend list mentioned above. Even if a user's PC 106 user does not do by this the activity of telling by telephone live distribution having been stopped, or creating the electronic mail containing a message to that effect, those who have the e-mail address of the friend list concerned can be told about live distribution having been stopped automatically.

[0158] Moreover, when a user wants to check the content of reservation after reconfirmation is performed, as mentioned above, the "finishing [reconfirmation]" carbon button of the screen shown in drawing 31 is clicked. A click of a "finishing [reconfirmation]" carbon button transmits that to the live casting server 150 through the Internet 103 by a user's PC 106 CPU120. Thereby, the live casting server 150 transmits the Web page [finishing / reconfirmation] for a reservation check to a user PC 106 through the Internet 103. Consequently, as shown in drawing 36, the content of reservation set up now, the special case matter in the case of using a dial-up router, the carbon button 361 "which re-registers PC connection setting out", and the carbon button 362 which directs to return to a "my channel" screen and "returning" are displayed on a user's PC 106 browser display screen 44.

[0159] Here, a click of the carbon button 361 "which re-registers PC connection setting out" transmits that to the live casting server 150 through the Internet 103 by a user's PC 106 CPU120. Thereby, the live casting server 150 transmits again a reservation setting-out information file (refer to drawing 29) to a user PC 106 through 103. Consequently, in a user PC 106, automatic incorporation processing of a reservation setting-out information file is performed. When changing PC which performs for example, live distribution from PC which reconfirmed, what is necessary is just made to perform such resending processing of a reservation setting-out information file.

[0160] B-3. When the distribution reservation which carries out live distribution **** and includes reconfirmation [like] is completed and the reserved live distribution start time concerned comes, a user's PC 106 user will connect with the streaming server 102 through the network 108 only for server connection, and will perform live distribution of contents. And a client PC 107 will require stream distribution of these contents, and will receive contents offer.

[0161] It explains below the contents transmission to a streaming server from the B-3-1. user PC, referring to drawing 37 which showed the sequence flow chart of the processing actuation concerned about processing actuation of the user PC 106 at the time of transmitting contents to the streaming server 102 from the user PC 106 in live distribution, the network 108 only for server connection, a database server 155 (refer to drawing 12), and the streaming server 102.

[0162] Since the connection with the streaming server 102 from five quotas is permitted rather than the reserved live distribution start time when performing live distribution, the processing for establishing the communication link connection between a user PC 106 and the streaming server 102 will be started after this time amount. The user prepares contents distribution before the live distribution start time concerned. Here, as preparation of contents distribution, there are decision of the camera station of the digital video camera 129 (refer to drawing 3), setting-out processing (refer to drawing 10 and drawing 11) of the effect in the live distribution mode based on the design for contents to distribute, etc.

[0163] Before the predetermined time of the live distribution start time which the user PC 106 in this operation gestalt reserved (For example, ten quotas) etc., as the program for displaying the message of "being live distribution start time soon", and notifying a user is stored and it is shown in drawing 37. If it comes before the above-mentioned predetermined time, when a user's PC 106 CPU120 performs this program, the message of "being live distribution start time soon" will be displayed on a display 124 (step Sc 1). Thereby, it can reduce now that a user will forget live distribution start time. Here, when it is not the live distribution mode in the application which mentioned the user PC 106 above, CPU120 performs

the application program concerned automatically, and chooses the live distribution mode in the application concerned automatically, and displays the screen (refer to drawing 9 (a)) in "live distribution mode" on a display 124.

[0164] Then, in a user PC 106, if the time of day (five quotas of start time) when the connection initiation to the streaming server 102 mentioned above is permitted comes, CPU120 will start automatically communication link connection processing with the streaming server 102 by performing a connection processing program. You may automate thoroughly, a user inputs only directions of final connection initiation, and communication link connection processing started here may be automatically performed considering this input as a trigger.

[0165] Here, the reservation setting-out information file (refer to the drawing 2929) enciphered and memorized by predetermined registry is decoded, and the following communication link connection processings are performed based on the information described by the item of "Reservation ID", and "server connectable time amount" of this file, "the telephone number for connection", and "the server information for connection" in processing by CPU 120 according to the above-mentioned communication link connection processing program.

[0166] First, when the connectable start time shown in "server connectable time amount" comes, the communication link connection processing concerned is started, a telecommunications service operator's access port telephone number beforehand set up by the user is acquired by referring to "the telephone number for connection" of a reservation setting-out information file, and processing which carries out call origination to the telephone number concerned is performed. And from the access server of the network 108 only for server connection, Reservation ID is transmitted and communication link connection is made (step Sc 2). Thus, since processing which carries out call origination automatically is performed, a user does not need to operate the input of the telephone number etc. Since it becomes very complicated [especially alter operation, such as information for which using a user PC 106 with a gestalt as it indicated at drawing 3 (b) and drawing 3 (c) in live distribution that mentioned above used keyboard 126a,], a comfortable contents creation environment can be offered by the user because it is made to perform processing which carries out call origination automatically as mentioned above.

[0167] In order to attest whether the access server of the network 108 only for server connection belongs to the user to whom the user PC 106 who has demanded connection of an access port as mentioned above has just reservation, the transmitted reservation ID is transmitted to the database server 155 of the server activity reservation management center 101 (step Sc 3). Thus, authentication processing is performed by checking whether the database server 155 which received the reservation ID transmitted from the access server of the network 108 only for server connection is registered into the reservation database 151 in the time zone which this reservation ID starts from current (step Sc 4). The user PC 106 who has transmitted this reservation ID when the transmitted reservation ID is registered into the reservation database 151 here judges that it belongs to the user who has just reservation, and when the transmitted reservation ID is not registered into the reservation database 151 in that time zone, he judges that it is not what has just reservation.

[0168] In authentication processing here, although Reservation ID is used as mentioned above, thereby, the following effectiveness is acquired. For example, when attesting reservation using the user ID and the password which the member of the service concerned has, user ID and a password are just, and even if it is checked that what has been accessed is a member, it cannot distinguish whether it is that in which the member has reservation of the time zone. Therefore, in authentication processing, after attesting that a user is a member, it is necessary to check the content of registration of reservation further and to confirm whether the member specified by the user ID is reserving in the time zone, and authentication processing is complicated. on the other hand, since it can distinguish [whether you are a just subscriber and] by simple authentication processing check whether this reservation ID is registered as reservation of the time zone corresponding to the time amount which authentication over user ID did not need to be carried out since it was the information which only a user can know, and that reservation ID has accessed if the reservation ID used for authentication only to a certain reservation is used as mentioned above, it is -- **.

[0169] The database server 155 which performed authentication processing using Reservation ID as mentioned above transmits this authentication result to the access server of the network 108 only for server connection (step Sc 5).

[0170] When the access server of the network 108 only for server connection says that the authentication result from the above-mentioned database server 155 belongs to a just subscriber, connection between a user PC 106 and the streaming server 102 is permitted, PPP connection of both is made by this, and the communication link connection between both is established (step Sc 6). On the other hand, in saying that the above-mentioned authentication result is not a just subscriber, the access server of the network 108 only for server connection does not permit connection with the streaming server 102, but cuts the call from a user PC 106 promptly. Thus, when it is judged that it is a call from an inaccurate thing, he is trying to secure the circuit for a just subscriber by cutting the call promptly.

[0171] If it connects with the streaming server 102 through the network 108 only for server connection as mentioned above, a user's PC 106 CPU120 will transmit Reservation ID to the streaming server 102, and will require live distribution (step Sc 7).

[0172] In order to attest whether it belongs to the user to whom the user PC 106 to whom the carrier beam streaming server 102 has given the live distribution demand for the live distribution demand from a user PC 106 has just reservation, the transmitted reservation ID is transmitted to the database server 155 of the server activity reservation management center 101 (step Sc 8). Thus, authentication processing is performed by checking whether the database server 155 which received the reservation ID transmitted from the streaming server 102 is registered into the reservation database 151 in the time zone which this reservation ID starts from current (step Sc 9). Authentication processing here is the same as that of the case where Reservation ID is transmitted from the access server of the network 108 only for server connection mentioned above.

[0173] The database server 155 which performed authentication processing using Reservation ID as mentioned above transmits this authentication result to the streaming server 102 (step Sc 10).

[0174] When saying that the authentication result from the above-mentioned database server 155 belongs to a just subscriber, the streaming server 102 permits the live distribution by the user PC 106, acquires the information (a reservation time zone, channel, etc.) about the reservation concerned from the reservation database 151, and controls live distribution based on this information while it transmits the purport to permit to a user PC 106 (step Sc 11). Thereby, a user's PC 106 CPU120 displays the message which notifies a user of live distribution having been permitted, and initiation of contents distribution is urged to it to a user. If such advice is received, live distribution initiation will be directed and a user will transmit the created dynamic-image data to the streaming server 102 through the network 108 only for server connection on real time while creating the dynamic-image data which operated suitably actuation dial 126b and manual operation button 126c, and started photography of the digital video camera 129, and carried out effect processing to the photoed image on real time (step Sc 12).

[0175] Thus, the streaming server 102 which received the dynamic-image data which are the contents transmitted by the user PC 106 carries out stream distribution to the client PC 107 with a demand of this. Under the present circumstances, if it is in the number of riding capacity of the channel which performs live distribution when "the open level" (reference, such as drawing 22) of the live distribution concerned is "Public", according to a distribution demand, stream distribution will be performed unconditionally. On the other hand, although stream distribution is performed to the client PC 107 which has carried out the distribution demand only to the client PC 107 which stimulates the input of a password and by which the input of a just password was made when "open level" is "Password" or "Secret", about the distribution demand between the streaming server 102 and a client PC 107, and processing actuation of stream distribution, it mentions later.

[0176] Thus, if live distribution is started, the streaming server 102 will transmit the time information by the side of the service provider acquired from the NTP server 153, and the information which shows the number of the clients PC 107 which are viewing and listening to the live distribution concerned, that is, are demanding distribution of these contents to a user PC 106. Thereby, in the status window SW (refer to drawing 9 (a)) displayed on a user's PC 106 display 124, presenting of the remaining time information

and the image size information which show the information and distribution elapsed time information which show that it is under broadcasting, the time information by the side of a service provider, the time information by the side of a user PC 106, the number information of viewers, reservation initiation end time, and the residual time of distribution, the transmission-speed information on distribution data, etc. is made. A user can know various information about the live distribution in a present progressive by referring to the display of this status window SW. Especially as an addresser of contents, it worries how many persons are viewing and listening to the contents concerned, and it also becomes reference of the channel selection at the time of performing live distribution next time (selection of the number of riding capacity). Therefore, it can be said that a viewer numeral is significant for a user as mentioned above.

[0177] Thus, when contents transmission to the streaming server 102 from a user PC 106 is performed and a user's PC 106 user terminates live distribution ahead of reservation end time (time of day by the side of a service provider), actuation dial 126b (refer to drawing 3) etc. is operated, and a selection decision of "distribution initiation / the termination" of GUI (refer to drawing 9 (b)) in live distribution mode is made. Thereby, a user's PC 106 CPU120 ends transmitting processing of contents, and cuts connection with the streaming server 102 (step Sc 13).

[0178] When the above processings are performed when a user ends contents transmission himself before reservation end time, but it becomes reservation end time and contents transmission to the streaming server 102 from a user PC 106 is performed on the other hand, the streaming server 102 ends the stream message distribution processing to the client PC 107 of the contents transmitted by the user PC 106, when it becomes reservation end time. Furthermore, when the time of day which ends the connection of a user PC 106 shown in "the server connectable time amount" (refer to drawing 29) mentioned above comes, communication link connection with a user PC 106 is cut compulsorily.

[0179] B-3-2. It is the detail of the contents transmitting processing to the streaming server 102 from the user PC 106 it is [whose] the addresser terminal at the time of live distribution which was explained more than stream distribution of the contents to Client PC from the streaming server, and the streaming server 102 will perform stream message distribution processing of the contents concerned to the client PC 107 which had the demand in response to the contents transmission from a user PC 106 in this way. It explains referring to the display screen of the client PC 107 which performs a distribution demand etc. about the processing actuation at the time of stream distribution of such contents. In addition, in the following explanation, "the open level" (refer to drawing 22) of the contents distribution concerned shall be "Password" or "Secret", and the user of this client PC 107 shall know the password for receiving contents offer.

[0180] When the client user of a client PC 107 performs the distribution demand of contents, a client user starts browser software, after supplying a power source to a client PC 107. And URL for a client user to identify the top page of the Web page of the live casting server 150 in a client PC 107 is inputted, and, as for CPU of a client PC 107, this performs the access demand of the Web page concerned to the live casting server 150 through the Internet 103. The screen which the top page of a Web page is transmitted through the Internet 103 from the live casting server 150, consequently is shown in the display screen of a client PC 107 by this at drawing 13 is displayed.

[0181] When receiving contents distribution, a client user will click "today's live" (refer to drawing 15) or the link carbon button a "program guide" (refer to drawing 17). When a "program guide" is clicked, the present date on the calender displayed on the screen further shown in drawing 17 is clicked. Thereby, as shown in drawing 15 , the program distributed on that day is displayed. And a client user clicks the link carbon button of the "title" of a program which performs a distribution demand out of the program currently displayed.

[0182] Thus, if the link carbon button of a "title" is clicked, CPU of a client PC 107 will transmit the access demand of the Web page which displays the detailed information of the "title" concerned to the live casting server 150 through the Internet 103. Thereby, the live casting server 150 transmits the Web page as which the detailed information of the specified live program was displayed to a client PC 107 through the Internet 103. Consequently, the screen shown in drawing 16 will be displayed on the display screen of a client PC 107.

[0183] Although "playback" carbon button 175 will be clicked while a client user enters the password for obtaining distribution authorization in the display screen shown in drawing 16, when requiring distribution of the program as which this detailed information was displayed When the client PC 107 does not store real-time playback software, before clicking "playback" carbon button 175, the "playback software" carbon button 176 is clicked and playback software is downloaded beforehand.

[0184] And if a password is entered and "playback" carbon button 175 is clicked, CPU of a client PC 107 will transmit the entered password and a distribution demand to the streaming server 102 through the Internet 103. By transmitting the transmitted password to a database server 155, a database server 155 performs authentication processing whether the password transmitted by referring to the reservation database 151 is just, and the streaming server 102 transmits an authentication result to the streaming server 102.

[0185] The streaming server 102 distinguishes whether based on the number of riding capacity beforehand set as the channel currently used for the contents distribution concerned, distribution to the client PC 107 concerned is performed, when the above-mentioned authentication result is what is judged to be a just password. When current, and the number and the above-mentioned number of riding capacity of the client PC 107 which is performing distribution of the contents concerned are specifically compared and contents distribution has already been performed to the client PC 107 of the number of riding capacity, distribution beyond it is not performed. That is, when there is a distribution demand and contents distribution is being performed to the client PC 107 of the number of riding capacity, the distribution demand is not answered.

[0186] On the other hand, when the number of the clients PC 107 of the distribution place of the contents in the event of there being a distribution demand is under the number of riding capacity, it supposes that it distributes, distribution to the client PC 107 demanded in this case is permitted, and stream distribution of the contents to the client PC 107 concerned is performed from the streaming server 102. Thus, if stream distribution is started, as shown in the display screen of a client PC 107 at drawing 38, the repeat display screen 390 of the above-mentioned playback software will be displayed on the detailed information display screen of a program, and the contents by which stream distribution was carried out will be reproduced by the repeat display screen 390 concerned on real time. Thus, the user of a client PC 107 can reproduce, view and listen to the contents by which live distribution is carried out on real time.

[0187] Moreover, the streaming server 102 has a distribution demand of the program concerned, counts serially the number of the clients PC 107 which are distributing actually, and transmits to the transmit terminal (the above-mentioned explanation the user PC 106) of contents as a result of [this] a count (i.e., the number information of viewers).

[0188] In addition, in the above-mentioned explanation, although the client PC 107 is made to give a distribution demand to the streaming server 102 through the Web page of the live casting server 150 When those who have the e-mail address set up above "a friend list" (R> drawing 22 2 reference) perform a distribution demand using a client PC 107 It may be made to perform actuation of inputting URL displayed on the "distribution demand place address information" of the electronic mail (refer to drawing 30) transmitted from the live casting server 150 as mentioned above, or clicking URL currently displayed. If such actuation is performed, CPU of a client PC 107 will start the connection processing to the connection place 102 specified as the URL concerned, i.e., a streaming server, and, thereby, can perform a distribution demand to the streaming server 102.

[0189] C. Various deformation which it is not limited to the operation gestalt which is a modification, and which mentioned this invention above, and is illustrated below is possible.

[0190] (Modification 1) Although the streaming server 102 was performing processing which carries out stream distribution of the contents transmitted by the user PC 106 to the client PC 107 with a demand in the operation gestalt mentioned above While performing the stream message distribution processing concerned, the contents transmitted by the user PC 106 are stored in media, such as a hard disk, and you may enable it to offer re-broadcast service of distributing this as a program on demand. In this case, what is necessary is to carry to the Web page (to refer to drawing 15) of "today's program" which

mentioned the re-broadcast program concerned above, and just to distribute these contents to the client PC 107 with a demand.

[0191] Moreover, although it transmits to the streaming server 102 in the operation gestalt mentioned above by making into contents the dynamic-image data which a user's PC 106 digital video camera 129 photoed on real time and contents distribution is performed. The user stores in the hard disk 123 beforehand the contents created using the user PC 106 grade, and it transmits to the distribution time amount which reserved these contents at the streaming server 102, and may be made to perform contents distribution. Moreover, the contents concerned may be stored in a user's PC 106 hard disk 123 in case contents, such as photoed dynamic-image data, are transmitted to the streaming server 102, in order to perform contents transmission on real time like the above-mentioned operation gestalt using a user PC 106. And live distribution is reserved again, and it transmits to the streaming server 102 from a user PC 106 again by considering the stored contents as a re-broadcast program, and may be made to perform contents distribution.

[0192] (Modification 2) In the operation gestalt mentioned above, although the streaming server 102 was performing processing which carries out stream distribution of the contents transmitted by the user PC 106 to the client PC 107 with a demand, again As opposed to the client PC 107 grade which stores the contents transmitted by the user PC 106 in media, such as a hard disk, and had the demand while performing the stream message distribution processing concerned. These contents are written in various package media with well-known CD-ROM (Compact Disc-Read Only Memory), DVD-ROM (Digital Versatile Disc-Read Only Memory), etc. It may be made to offer service of delivering to the user who demanded this. According to such service, it becomes possible to require delivery of the contents which view and listen to the contents by which live distribution is carried out and by which the client user of a client PC 107 was written in package media about favorite contents. Here, since the network 108 only for server connection is used for the communication path of the user PC 106 and the streaming server 102 which are the master station of contents as mentioned above, it can secure sufficient transmission band. On the other hand, the communication path between the streaming server 102 and a client PC 107 has a high possibility of it not restricting sufficient data transmission band being securable, but receiving constraint of a transmission band in order to use the Internet 103. It is necessary to make small transmission speed of the stream data distributed to a client PC 107, and degradation of the playback image quality of the contents in a client PC 107 etc. will arise in this case by constraint of such a transmission band. With the above-mentioned service, the want of wanting to view and listen by the image reproduction of high quality can be met about the contents included in mind. That is, if the above-mentioned service is used, since the contents data which wrote the contents transmitted to the streaming server 102 from the user PC 106 in package media as it was, and were written in this are reproducible using a client PC 107, the client user can view and listen to the contents concerned in quality equivalent to the contents transmitted to the streaming server 102 from the user PC 106. The client which receives offer of the contents recorded on such package media carries out the repeat display of the contents to a television screen etc. using the player equipment (except PC is sufficient) which has the function which can carry out the repeat display of the contents stored in the package media concerned, and you may make it view and listen to them.

[0193] (Modification 3) In the operation gestalt mentioned above, although performing live distribution only in the time zone which a user's PC 106 user reserved beforehand is permitted, again While live distribution based on reservation is performed, when the streaming server 102 refers to the reservation database 151 The reservation status after the reservation time amount termination concerned of a channel current in use is checked. As long as it seems that it is vacant, you may make it transmit the message to the effect "extension of reservation is possible for the time of OO" etc., from the streaming server 102 to a user PC 106 before the predetermined time of reservation end time (for example, ten quotas). And this message should just be displayed on the status window SW (refer to drawing 9 (a)) of the user PC 106 who received this message etc. Under the present circumstances, if an extended carbon button is displayed on the status window SW and this extended carbon button is clicked, the purport to which a user's PC 106 CPU120 extends will be transmitted to the streaming server 102. The streaming

server 102 which received this permits extension. If such extended service is offered, while the want of wanting to extend to the user of the user PC 106 who is a distribution person can be met, the effectiveness that the channel of the streaming server 102 is efficiently utilizable also as a service provider is acquired.

[0194] In the operation gestalt mentioned above again (Modification 4) The case where the program for performing distribution reservation processing is beforehand installed on the hard disk of the live casting server 150, Although the case where the program for performing various processings in the case of distribution reservation and various processings in the case of live distribution was beforehand installed on a user's PC 106 hard disk 123 was described CD-ROM in which, as for this invention, not only this but the contents distribution program was stored (Compact Disc-Read Only Memory), The various above-mentioned programs may be installed by reproducing the program storing medium which becomes by package media, such as DVD-ROM (Digital Versatile Disc-ReadOnly Memory). Moreover, the various above-mentioned programs may be installed by reproducing program storing media by which a program is stored temporarily or permanently, such as semiconductor memory and a magneto-optic disk.

[0195] As a means to store the various above-mentioned programs in these program storing media, may use a cable and radiocommunication media, such as a Local Area Network and digital satellite broadcasting service, various communication link interfaces, such as a router and a modem, are made to intervene, and you may make it store.

[0196] (Modification 5) Further, although the case where the Internet 103 was used as a network for performing distribution reservation between a user PC 106 and the live casting server 150 in the operation gestalt mentioned above was described, this invention may use other various networks built not only by this but by a cable or wireless.

[0197] Moreover, although he was trying to form the network 108 only for server connection with the operation gestalt mentioned above in order to connect a user PC 106 and the streaming server 102, you may make it connect both not only using this but using the Internet 103.

[0198] (Modification 6) Although he was trying to use the user PC 106 who built in the digital video camera 129 as an addresser terminal of live distribution in the operation gestalt mentioned above, you may make it use further what carried out the cable splicing of the digital video camera to the usual PC through IEEE(Institute of Electrical and Electronics Engineers) 1394 interface etc., and PC which made wireless connection of the digital video camera. Moreover, the portable telephone which connected the digital camera with the cable etc., and the portable telephone having a digital camera are replaced with a user PC 106, and you may make it use them.

[0199] The case where it is used hereafter, replacing the portable telephone having a digital camera with a user PC 106 is illustrated and explained.

[0200] In drawing 39, the base stations CS1-CS4 which are fixed radio stations, respectively are installed in the cel which showed the network system to which the portable telephone MS 3 with which 200 applied this invention as a whole is connected, and divided it into the magnitude of a request of the offer area of communication service.

[0201] In these base stations CS1-CS4, it is made as [make / by the code division multiple access standard called W-CDMA (Wideband-Code Division Multiple Access) / wireless connection of Personal Digital Assistants MS1 and MS2 or the digital portable telephones MS3 and MS4 with a camera which are ambulant radio stations], and is made as [carry out / using the frequency band of 2 [GHz] / with the data transfer rate of a maximum of 2 [Mbps] / to a high speed / data communication of the mass data].

[0202] Thus, Personal Digital Assistants MS1 and MS2 and the digital portable telephones MS3 and MS4 with a camera are made as [perform / varieties, such as not only a voice call but transmission and reception of an electronic mail, access of a simple homepage, transmission and reception of an image, etc., are attained to, and / data communication] by being made as [carry out / with a W-CDMA method / to a high speed / data communication of the mass data].

[0203] Moreover, base stations CS1-CS4 are connected to the telephone network 104 through the wire circuit, and the Internet 103, many subscriber cable terminals which are not illustrated, a computer

network, the network in an enterprise, etc. are connected to the telephone network 104 concerned.

[0204] The access server AS of an Internet Service Provider is connected to the telephone network 104, and the contents server TS which the Internet Service Provider concerned holds is connected to the access server AS concerned.

[0205] This contents server TS is made as [offer / contents, such as a simple homepage, / corresponding to the demand from a subscriber cable terminal, Personal Digital Assistants MS1 and MS2, and the digital portable telephones MS3 and MS4 with a camera / as a file of for example, a compact HTML (Hyper Text Markup Language) format]. This compact HTML is the subset of HTML, it leaves only the tag which can be reflected in the display of the limited size, and other parts are omitted. For example, in iMode (trademark) which is service of NTT DoCoMo, the alphabetic character attribute or color of a text which HTML for I modes is adopted, and this narrows down a function required for a cellular phone, and are using about 30 sorts of tags cannot be specified, but an image also has the limited conditions of the GIF file of 2 gradation being recommended. The file of the simple homepage perused with the personal digital assistant which has a limit in a viewing area or display capacity can be created by using HDML (handheld Device Markup Language) which is the description language used in WAP (Wireless Application Protocol) of such compact HTML or the protocol for mobile communication, WML (Wireless Markup Language), etc.

[0206] In this network system 200, the same server activity reservation management center 101 as the above-mentioned operation gestalt and the streaming server 102 are connected to the Internet 103, and it is made as [access / according to the protocol of TCP/IP (Transmission Control Protocol/Internet Protocol) / from a subscriber cable terminal Personal Digital Assistants MS1 and MS2, and the digital portable telephones MS3 and MS4 with a camera / it / to the server activity reservation management center 101 or the streaming server 102]. In addition, like the above-mentioned operation gestalt, in case contents distribution which used the streaming server 102 is performed, although it is made to perform contents transmission to the streaming server 102 through the network 108 only for server connection from the digital portable telephones MS3 and MS4 with a camera, it may be made to perform contents transmission by Internet 103 course in the example of a graphic display.

[0207] Incidentally Personal Digital Assistants MS1 and MS2 and a digital portable telephone with a camera, and MS3 and MS4 are made as [communicate / communicate even the base stations CS1-CS4 which are not illustrated with the simple transport protocol of 2 [Mbps], and / even the WWW servers WS1-WSn / from the base stations CS1-CS4 concerned / with a TCP/IP protocol / through Internet ITN].

[0208] In addition, it connects with a subscriber cable terminal, Personal Digital Assistants MS1 and MS2, and the digital portable telephones MS3 and MS4 with a camera through the telephone network 104, and supervisory control equipment MCU is made as [perform / authentication processing accounting, etc. to a subscriber cable terminal or Personal Digital Assistants MS1 and MS2 concerned, and the digital portable telephones MS3 and MS4 with a camera].

[0209] Next, the example of an appearance configuration of the digital portable telephone MS 3 with a camera which can be used for the above-mentioned user PC 106, replacing with is explained. As shown in drawing 40, the digital portable telephone MS 3 with a camera is divided into the display 212 and the body 213 bordering on the central hinge region 211, and is formed possible [folding] through the hinge region 211 concerned.

[0210] The antenna 214 for transmission and reception is attached in the upper bed left part at the cash drawer and the condition which can be contained, and it is made by the display 212 as [receive / an electric wave / between base stations CS 3 / through the antenna 214 concerned / transmit and].

[0211] Moreover, the camera section 215 which can rotate freely in [include-angle] about 180 degrees is formed in the upper bed center section at the display 212, and it is made as [picturize / with CCD camera 216 of the camera section 215 concerned / the desired object for an image pick-up].

[0212] As shown in drawing 41, the loudspeaker 217 prepared in the center of a tooth-back side of the camera section 215 concerned will be located in a transverse-plane side, and the display 212 is made as [switch / to the usual voice talk state / this] here, when the camera section 215 rotates about 180

degrees and is positioned by the user.

[0213] Furthermore, it is prepared and is made by the display 212 as [display / on the transverse plane / the image picturized with CCD camera 216 of the content / of the electronic mail besides being a phase hand name, the telephone number, dispatch hysteresis which are registered as the receive state of an electric wave, a cell residue, and a telephone directory liquid crystal display 218 /, simple homepage, and camera section 215].

[0214] On the other hand, the actuation keys 219, such as the numerical keypad of surface "0" - "9", a call origination key, a redial key, clear back and a power-source key, a clear key, and an electronic mail key, are formed in the body 213, and it is made as [input / using the actuation key 219 concerned / various directions].

[0215] Moreover, while MEMOBOTAN 220 and a microphone 221 are formed in the lower part of the actuation key 219 and being able to record the voice between under call by MEMOBOTAN 220 concerned on a body 213, it is made as [collect / with a microphone 221 / the voice of the user at the time of a call].

[0216] Furthermore, it is made by the body 213 as [perform / the telephone directory list with which the jog dial 222 which can be freely rotated in the upper part of the actuation key 219 prepares in the condition projected slightly, and is displayed on the liquid crystal display 218 according to the rotation actuation to a ***** cage and the jog dial 222 concerned from the front face of the body 213 concerned, scrolling actuation of an electronic mail, and a simple homepage roll up, and / various actuation of actuation, delivery actuation of an image, etc.].

[0217] For example, the body 213 is made as [perform / automatically / to the telephone number concerned / decide the selected telephone number and / call origination processing], if the desired telephone number is chosen out of two or more telephone numbers of the telephone directory list displayed on the liquid crystal display 218 according to rotation actuation of the jog dial 222 by the user and the jog dial 222 concerned is pressed in the direction of the interior of a body 213.

[0218] In addition, the battery pack which is not illustrated to a tooth-back side is inserted, power will be supplied from the battery pack concerned to each circuit section, and a body 213 will be started in the condition that it can operate, if clear back and a power-source key are turned on.

[0219] By the way, the memory stick slot 224 for inserting the memory stick (trademark of Sony Corp.) 223 which can be freely taken out and inserted in the left lateral upper part of the body 213 concerned in a body 213 is established, and if MEMOBOTAN 220 is pushed, the voice of the partner under call to a memory stick 223 will be recorded, or it is made as [record / the image picturized with the electronic mail, the simple homepage, and CCD camera 216 according to actuation of a user].

[0220] A memory stick 223 is a kind of the flash memory card developed by Sony Corp. which is an applicant for this patent here. This memory stick 223 stores the flash memory component which is a kind of EEPROM (ElectricallyErasable and Programmable Read Only Memory) which is the nonvolatile memory which can be rewritten and eliminated electrically in the plastics case of the small thin configuration of vertical 21.5x width 50x thickness 2.8 [mm], and writing and read-out of various data, such as an image, and voice, music, are possible for it through 10 pin terminals.

[0221] Moreover, it formed the incorrect elimination prevention switch and has secured high dependability while the original serial protocol which can secure compatibility by the device to be used was used for the memory stick 223 also to specification modification of the built-in flash memory by large-capacity-izing etc. and it has realized the high-speed engine performance of the maximum writing speed 1.5 [MB/S] and the maximum read-out rate 2.45 [MB/S].

[0222] Therefore, since it is constituted possible [insertion of such a memory stick 223], the digital portable telephone MS 3 with a camera is made as [attain / among other electronic equipment / through the memory stick 223 concerned / share-ization of data].

[0223] As shown in drawing 42, the digital portable telephone MS 3 with a camera As opposed to the main control section 250 made as [control / a display 212 and each part of a body 213 / in generalization] The power circuit section 251, the actuation input-control section 252, the image encoder 253, the camera interface section 254, the LCD (Liquid Crystal Display) control section 255,

the image decoder 256, the demultiplexing section 257, the record playback section 262, the strange demodulator circuit section 258 And while the voice codec 259 is mutually connected through Main Bath 260, through the synchronous bus 261, it connects mutually and the image encoder 253, the image decoder 256, the demultiplexing section 257, the strange demodulator circuit section 258, and the voice codec 259 are constituted.

[0224] The power circuit section 251 will start the digital portable telephone MS 3 with a camera in the condition that it can operate, by supplying power from a battery pack to each part, if clear back and a power-source key are made an ON state by actuation of a user.

[0225] The digital portable telephone MS 3 with a camera changes into digital voice data the sound signal which collected the sound with the microphone 221 at the time of voice talk mode by the voice codec 259 based on the control of the main control section 250 which becomes by CPU, ROM, RAM, etc., carries out spectrum diffusion process of this in the strange demodulator circuit section 258, and after it performs digital-to-analog transform processing and frequency-conversion processing in the transceiver circuit section 262, it transmits it through an antenna 214.

[0226] Moreover, after the digital portable telephone MS 3 with a camera amplifying the input signal which received with the antenna 214 at the time of voice talk mode, performing frequency conversion processing and analog-to-digital-conversion processing, carrying out spectrum back-diffusion-of-gas processing in the strange demodulator circuit section 258 and changing it into an analog sound signal by the voice codec 259, it outputs this through a loudspeaker 217.

[0227] Furthermore, the digital portable telephone MS 3 with a camera sends out the text data of the electronic mail inputted by actuation of the actuation key 219 and the jog dial 222 to the main control section 250 through the actuation input-control section 252, when transmitting an electronic mail at the time of data communication mode.

[0228] The main control section 250 carries out spectrum diffusion process of the text data in the strange demodulator circuit section 258, and after it performs digital-to-analog transform processing and frequency-conversion processing in the transceiver circuit section 262, it transmits to a base station CS 3 (refer to drawing 39) through an antenna 214.

[0229] On the other hand, when receiving an electronic mail at the time of data communication mode, after the digital portable telephone MS 3 with a camera carries out spectrum back-diffusion-of-gas processing of the input signal which received from the base station CS 3 through the antenna 214 in the strange demodulator circuit section 258 and restores the original text data, it is displayed on a liquid crystal display 218 as an electronic mail through the LCD control section 255.

[0230] The digital portable telephone MS 3 with a camera can also record after this the electronic mail received according to actuation of a user on a memory stick 223 through the record playback section 262.

[0231] On the other hand, the digital portable telephone MS 3 with a camera supplies the image data picturized with CCD camera 216 to the image encoder 253 through the camera interface section 254, when transmitting image data at the time of data communication mode.

[0232] Incidentally, the digital portable telephone MS 3 with a camera can also display directly the image data picturized with CCD camera 216 on a liquid crystal display 218 through the camera interface section 254 and the LCD control section 255, when not transmitting image data.

[0233] By carrying out compression coding of the image data supplied from CCD camera 216 with predetermined coding methods, such as MPEG (Moving Picture Experts Group)2 and MPEG4, the image encoder 253 is changed into coded-image data, and sends this out to the demultiplexing section 257.

[0234] At this time, the digital portable telephone MS 3 with a camera sends out to coincidence the voice which collected the sound with the microphone 221 during the image pick-up as digital voice data through the voice codec 259 at the demultiplexing section 257 with CCD camera 216.

[0235] The demultiplexing section 257 multiplexes the coded-image data supplied from the image encoder 253, and the voice data supplied from the voice codec 259 by the predetermined method, carries out spectrum diffusion process of the multiplexing data obtained as a result in the strange demodulator

circuit section 258, and after it performs digital-to-analog transform processing and frequency-conversion processing in the transceiver circuit section 262, it transmits through an antenna 214. [0236] On the other hand, when receiving the data of the dynamic-image file linked to the simple homepage etc. at the time of data communication mode, the digital portable telephone MS 3 with a camera carries out spectrum back-diffusion-of-gas processing of the input signal which received from the base station CS 3 through the antenna 214 in the strange demodulator circuit section 258, and sends out the multiplexing data obtained as a result to the demultiplexing section 257.

[0237] The demultiplexing section 257 supplies the voice data concerned to the voice codec 259 while it is divided into coded-image data and voice data and supplies the coded-image data concerned to the image decoder 256 through the synchronous bus 261 by separating multiplexing data.

[0238] When the image decoder 256 decodes coded-image data by the decryption method corresponding to predetermined coding methods, such as MPEG 2 and MPEG4, playback dynamic-image data are generated, this is supplied to a liquid crystal display 218 through the LCD control section 255, and the video data contained in the dynamic-image file linked to the simple homepage by this is displayed.

[0239] At this time, the voice codec 259 supplies this to a loudspeaker 217 at coincidence, after changing voice data into an analog sound signal, and thereby, ***** voice data is reproduced by the dynamic-image file linked at the simple homepage.

[0240] The digital portable telephone MS 3 with a camera can record the data linked to the simple homepage which received on a memory stick 223 through the record playback section 262 by actuation of a user like the case of an electronic mail also in this case.

[0241] It adds to this configuration. The digital portable telephone MS 3 with a camera The same application program as the above-mentioned operation gestalt etc. is stored in ROM of the main control section 250. Based on this application program, the live casting server 150 (refer to drawing 12) of the reservation management center 101 is accessed. When it reserves by being made as [perform / member registration mentioned above between the live casting servers 150 and live distribution reservation processing including reconfirmation], a reservation setting-out information file (refer to drawing 28) is received, and it enciphers automatically, and saves. Moreover, this digital portable telephone MS 3 with a camera is made as [perform / live message distribution processing based on the reservation which a user PC 106 performs in the above-mentioned operation gestalt, and same processing]. Therefore, at the time of live distribution, it is made as [perform / the reservation setting-out information file saved on the occasion of the above-mentioned reservation processing is read automatically, communication link connection is established between the streaming servers 102, the contents photoed with CCD camera 216 are transmitted to the streaming server 102, and / live distribution of contents].

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the whole outline configuration of the contents distribution system with which the reservation approach of the contents distribution concerning 1 operation gestalt of this invention is applied.

[Drawing 2] It is the block diagram showing the configuration of the user PC who receives personal casting service with said contents distribution system.

[Drawing 3] It is the perspective view showing said user's PC example of an appearance configuration.

[Drawing 4] It is drawing showing the initial screen at the time of application program starting by said user PC.

[Drawing 5] It is drawing showing the display screen of the display of said user PC at the time of photography mode.

[Drawing 6] It is drawing showing the display screen of said display of said user PC in upload mode.

[Drawing 7] It is drawing showing the display screen of said display of said user PC in Web check mode.

[Drawing 8] It is drawing showing the display screen of said display of said user PC in live reservation mode.

[Drawing 9] It is drawing showing the display screen of said display of said user PC in live distribution mode.

[Drawing 10] It is drawing showing the effect display column in said live distribution mode.

[Drawing 11] It is drawing showing the display screen at the time of the effect setting-out processing in said live distribution mode.

[Drawing 12] It is the block diagram showing the configuration of the server activity reservation management equipment of said contents distribution system.

[Drawing 13] It is drawing showing the top page of the Web page stored in the hard disk of the live casting server of said server activity reservation management equipment.

[Drawing 14] It is drawing showing the Web page stored in the hard disk of said live casting server.

[Drawing 15] It is drawing showing the Web page stored in the hard disk of said live casting server.

[Drawing 16] It is drawing showing the Web page stored in the hard disk of said live casting server.

[Drawing 17] It is drawing showing the Web page stored in the hard disk of said live casting server.

[Drawing 18] It is drawing showing the content of registration of the reservation database of said server activity reservation management equipment.

[Drawing 19] It is the sequence flow chart which shows said user PC at the time of member registration, and processing actuation of said live casting server.

[Drawing 20] It is drawing showing the display screen of said display of said user PC at the time of said member registration.

[Drawing 21] It is the sequence flow chart which shows said user PC at the time of distribution reservation, and processing actuation of said live casting server.

[Drawing 22] It is drawing showing the display screen displayed on said display of said user PC at the time of said distribution reservation.

[Drawing 23] It is drawing showing the display screen displayed on said display of said user PC at the time of said distribution reservation.

[Drawing 24] It is drawing showing the display screen displayed on said display of said user PC at the time of said distribution reservation.

[Drawing 25] It is the sequence flow chart which shows said user PC at the time of the reconfirmation processing in said distribution reservation, and processing actuation of said live casting server.

[Drawing 26] It is drawing showing the display screen displayed on said display of said user PC at the time of said reconfirmation processing.

[Drawing 27] It is drawing showing the display screen displayed on said display of said user PC at the time of said reconfirmation processing.

[Drawing 28] It is drawing showing the reservation setting-out information file which is created by said live casting server at the time of said reconfirmation processing, and is transmitted to said user PC.

[Drawing 29] It is drawing showing the display screen displayed on said display of said user PC at the time of said reconfirmation processing.

[Drawing 30] It is drawing showing the content of the electronic mail transmitted to the e-mail address specified at the time of said reconfirmation processing.

[Drawing 31] When performing a reservation change, it is drawing showing the display screen displayed on said display of said user PC.

[Drawing 32] When performing a reservation change, it is drawing showing the display screen displayed on said display of said user PC.

[Drawing 33] When performing a reservation change, it is drawing showing the display screen displayed on said display of said user PC.

[Drawing 34] When performing reservation cancellation, it is drawing showing the display screen displayed on said display of said user PC.

[Drawing 35] When performing reservation cancellation, it is drawing showing the display screen displayed on said display of said user PC.

[Drawing 36] When performing a reservation check, it is drawing showing the display screen displayed on said display of said user PC.

[Drawing 37] - which is the sequence flow chart which shows processing actuation of said contents distribution system at the time of live distribution

[Drawing 38] It is drawing showing the display screen of Client PC which receives contents supply at the time of said live distribution.

[Drawing 39] It is approximate line drawing showing the whole network-system configuration concerning the modification of said operation gestalt.

[Drawing 40] It is the approximate line-perspective view showing the appearance configuration of a digital portable telephone with a camera.

[Drawing 41] It is the approximate line-perspective view showing the display of said digital portable telephone with a camera when rotating the camera section.

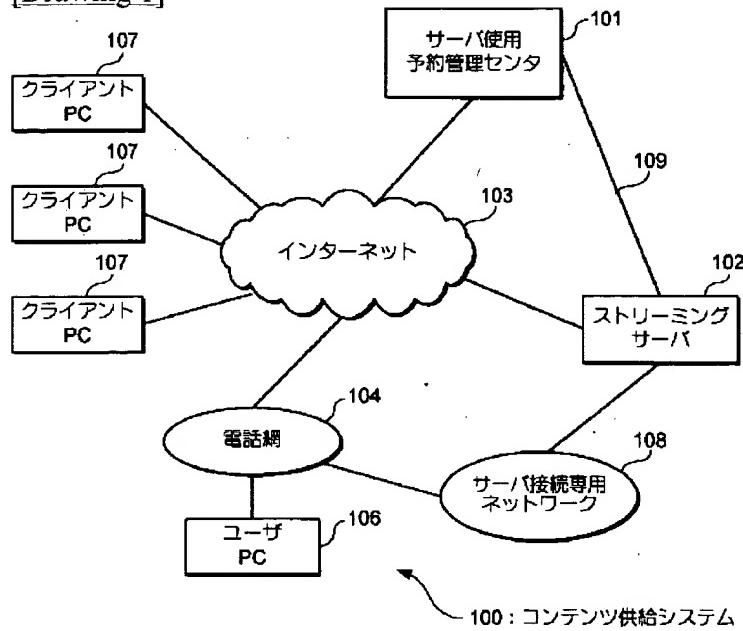
[Drawing 42] It is the block diagram showing the circuitry of said digital portable telephone with a camera.

[Description of Notations]

100 A contents distribution system, 101 .. Server activity reservation management equipment, 102 A streaming server, 103 .. The Internet, 104 .. Telephone network, 106 User PC, 107 .. Client PC, 108 .. The network only for server connection, 150 A live casting server, 151 .. Reservation database, 152 [.. A database server, 200 / .. A network system, MS3, MS4 / .. Digital portable telephone with a camera] A user database, 153 .. A NTP server, 154 .. A network interface, 155

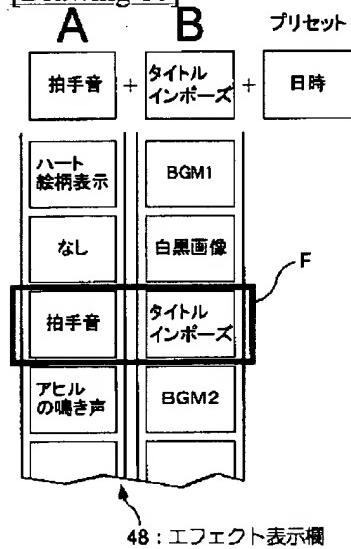
DRAWINGS

[Drawing 1]



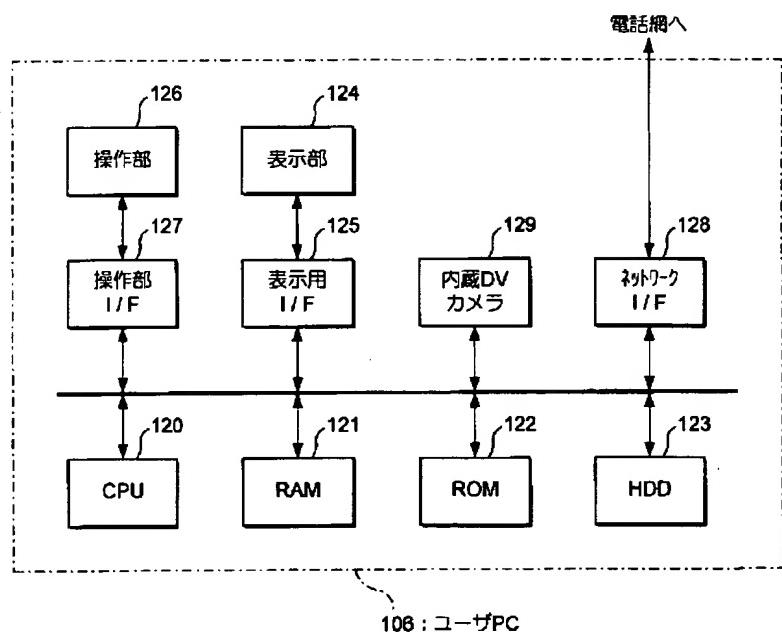
100 : コンテンツ供給システム

[Drawing 10]



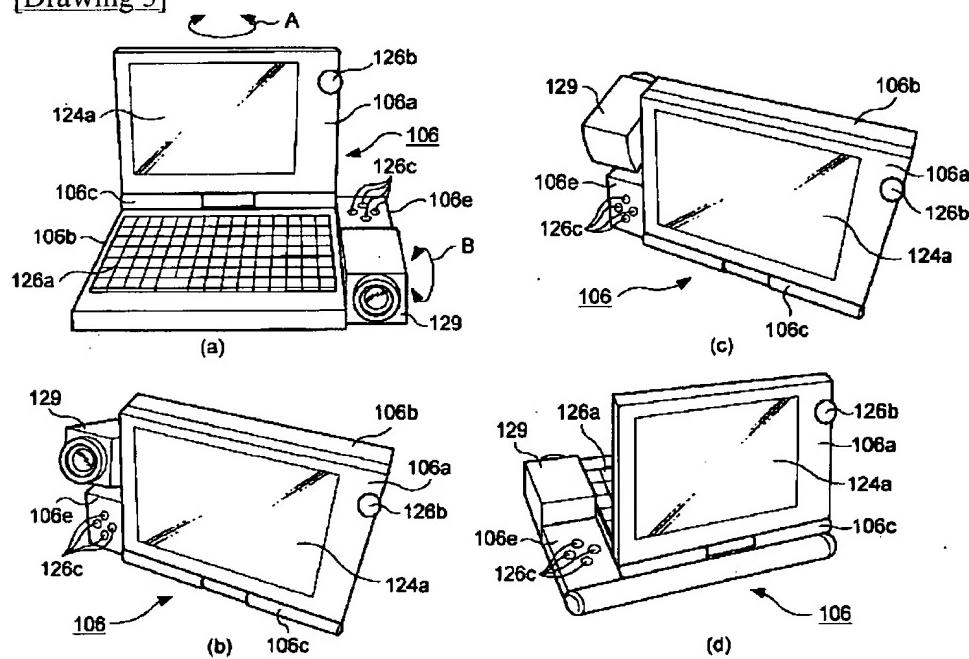
48 : エフェクト表示欄

[Drawing 2]

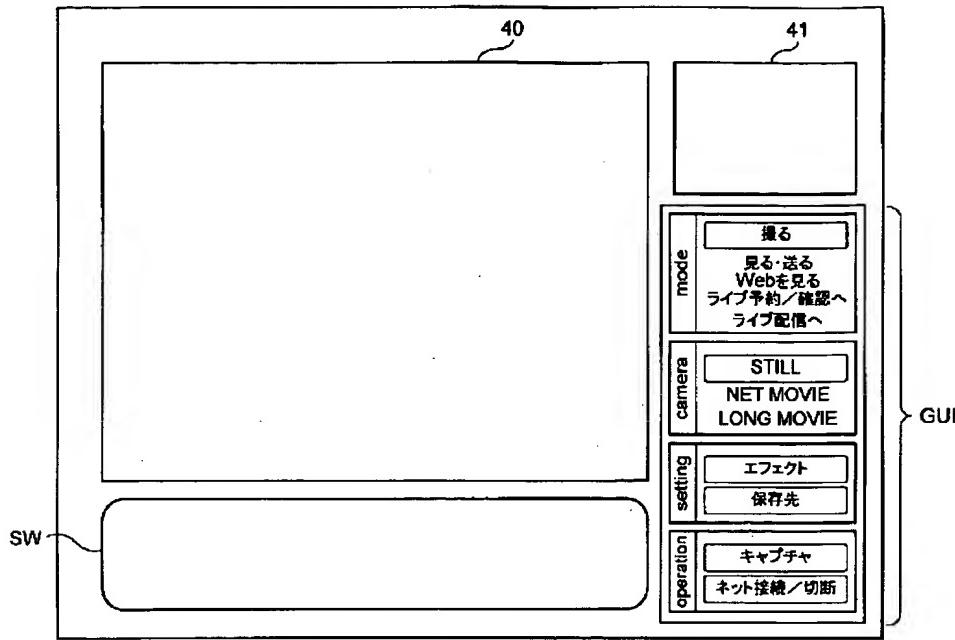


106 : ユーザPC

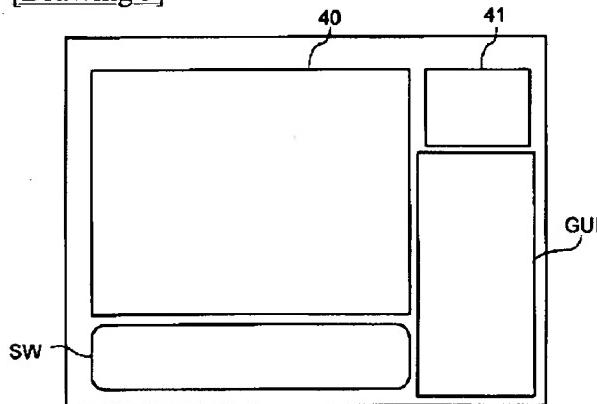
[Drawing 3]



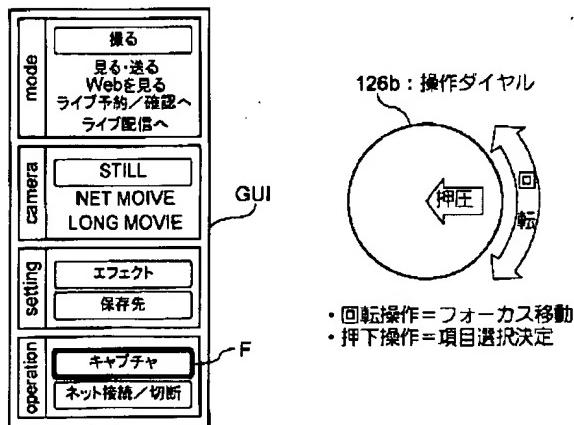
[Drawing 4]



[Drawing 5]

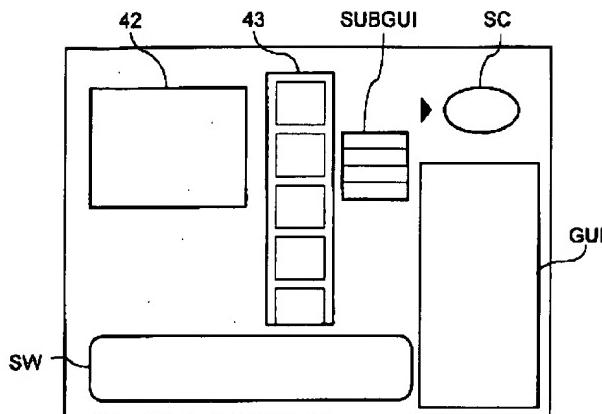


(a) 撮影モードの表示画面

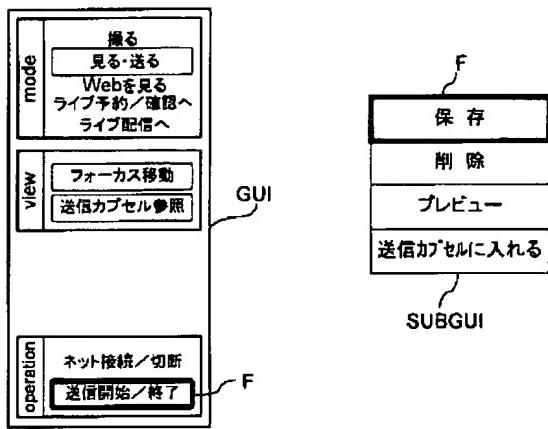


(b) 撮影モードのGUIと操作ダイヤルの操作内容との関係表示画面

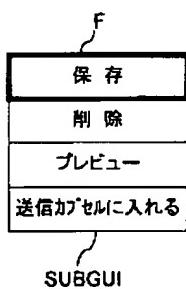
[Drawing 6]



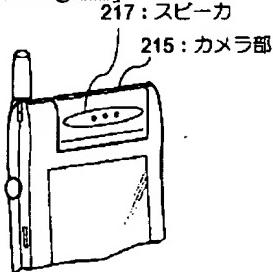
(a) アップロードモードの表示画面



(b) アップロードモードのGUI

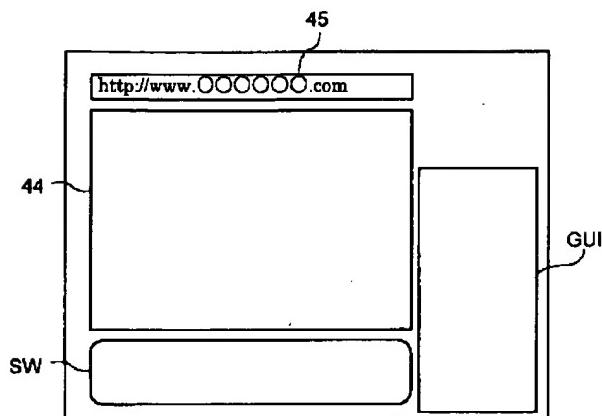


(c) アップロードモードのSUBGUI

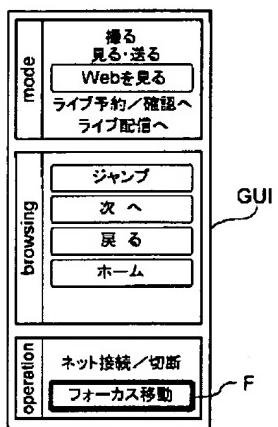
[Drawing 41]

カメラ部を回動したときの表示部

[Drawing 7]

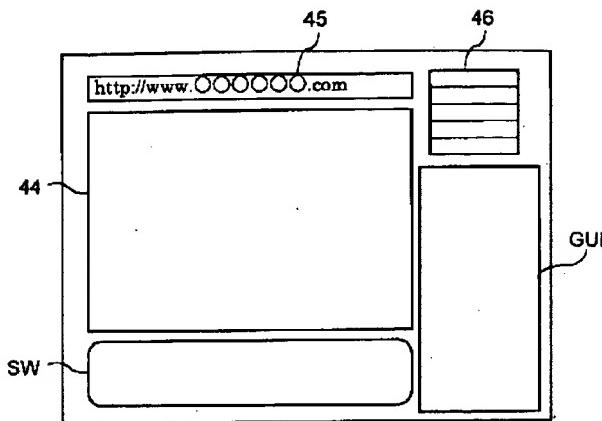


(a) Web確認モードの表示画面

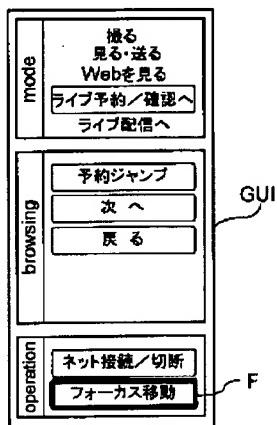


(b) Web確認モードのGUI

[Drawing 8]

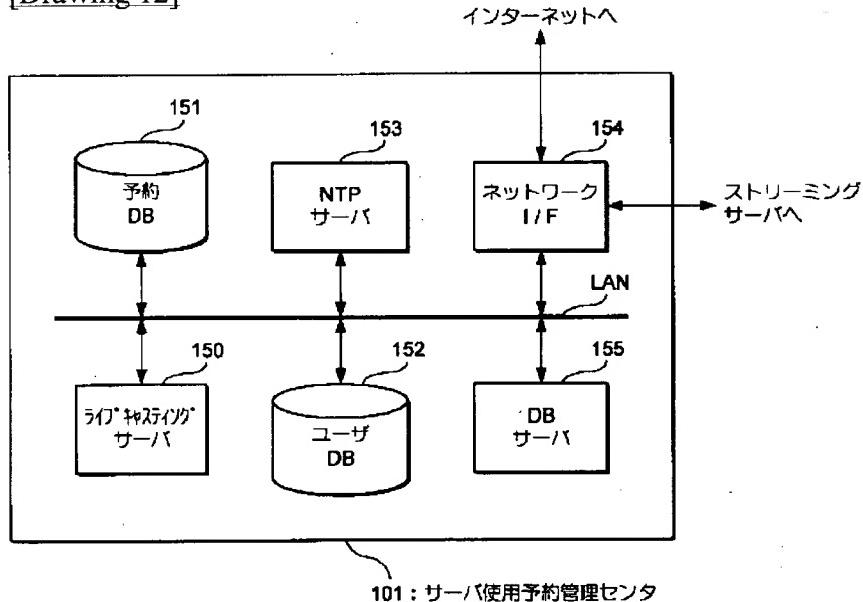


(a) ライブ予約モードの表示画面

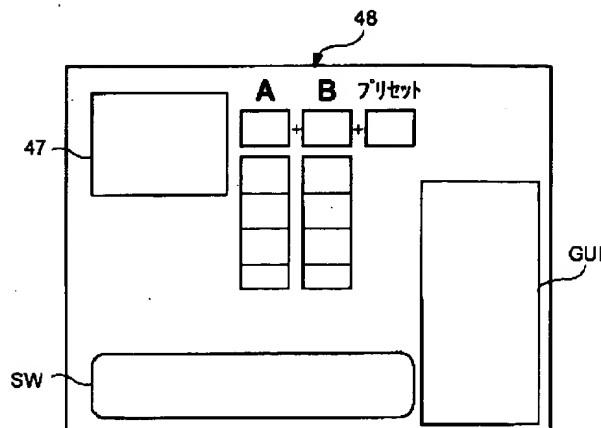


(b) ライブ予約モードのGUI

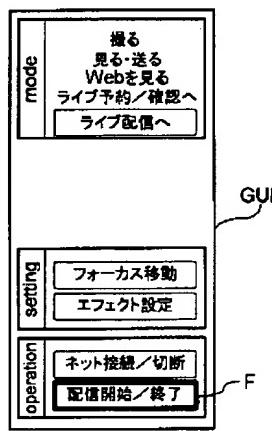
[Drawing 12]



[Drawing 9]

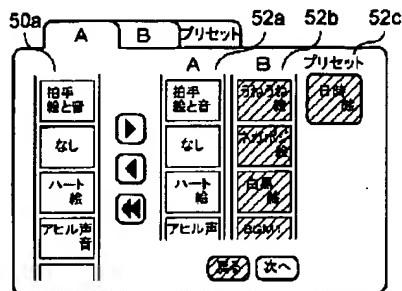


(a) ライブ配信モードの表示画面

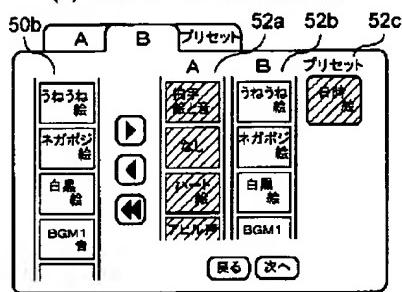


(b) ライブ配信モードのGUI

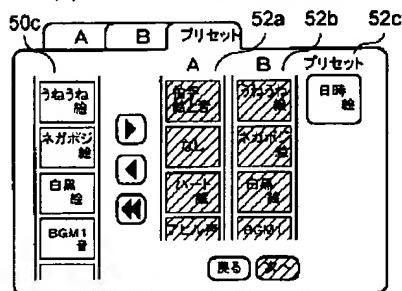
[Drawing 11]



(a) Aボタンエフェクト設定画面



(b) Bボタンエフェクト設定画面

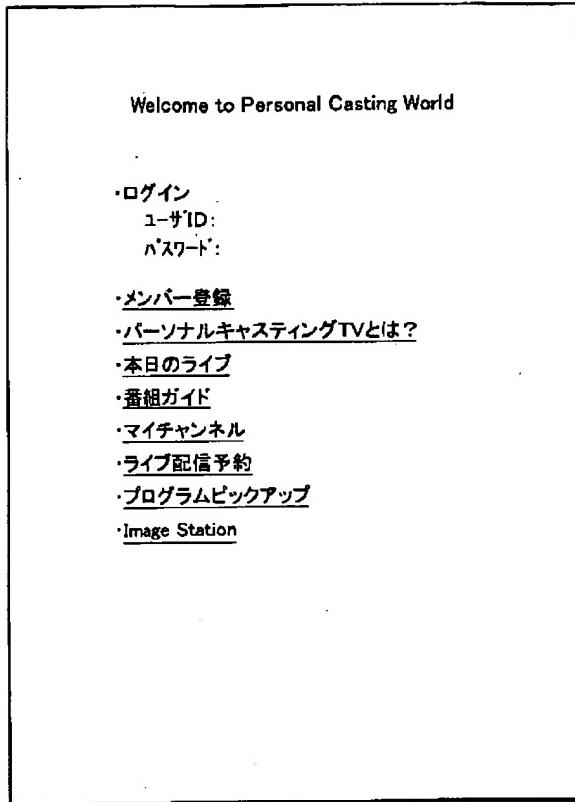


(c) プリセットエフェクト設定画面

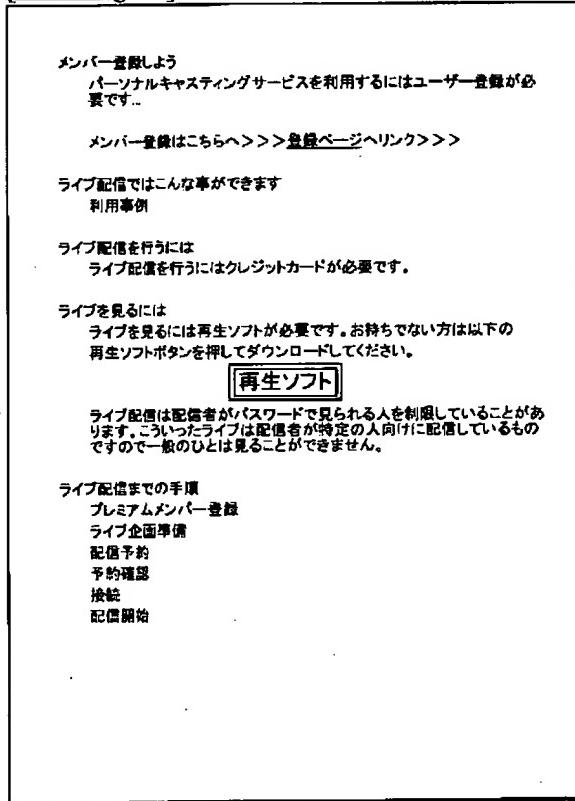
[Drawing 18]

予約内容	ユーザID	課金フラグ情報	予約ID
•〇月〇日 △時□分～□時△分 •2ch •64kbps	〇〇〇〇	可	××××
•△月×日 ○時×分～〇時△分 •4ch •28.8kbps	×△〇〇	不可	△△△△

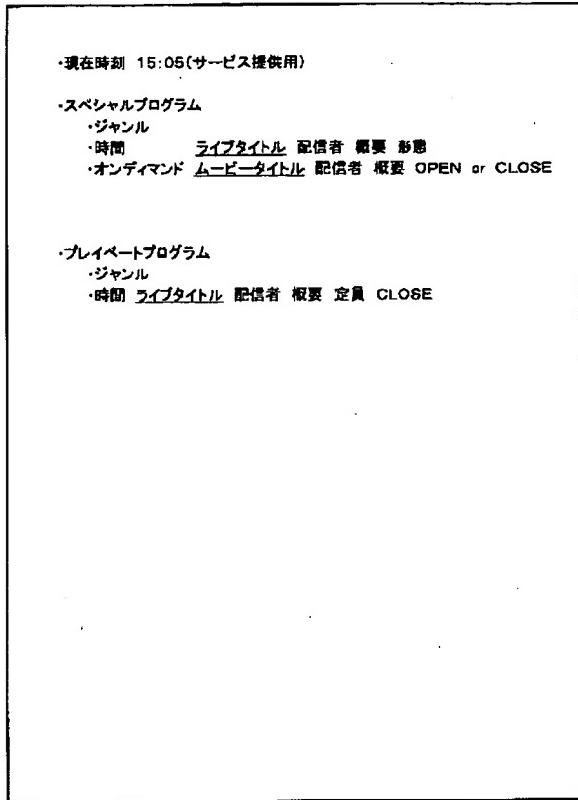
[Drawing 13]



[Drawing 14]



[Drawing 15]



・現在時刻 15:05(サービス提供用)
・スペシャルプログラム
・ジャンル
・時間 ライブタイトル 配信者 概要 形態
・オンデマンド ムービータイトル 配信者 概要 OPEN or CLOSE

・プライベートプログラム
・ジャンル
・時間 ライブタイトル 配信者 概要 定員 CLOSE

[Drawing 16]

現在時刻 15:08(サービス提供用)
ジャンル: ロック音楽
ライブタイトル: OOOO
配信者(メールアドレス): △△△@xx.com
ホームページ: <http://www.△△△xx.com>
定員: 50人
CLOSE or OPEN

概要
.....
.....

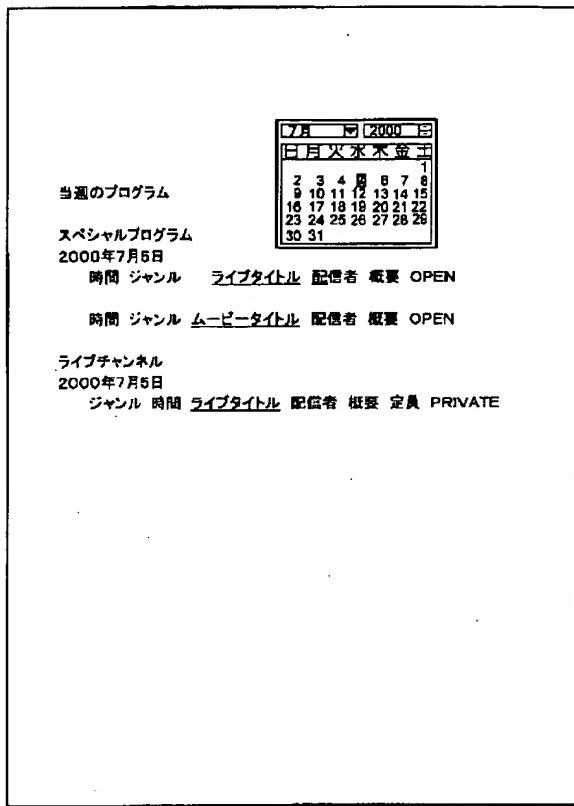
詳細紹介
.....
.....

パスワード入力:
再生 ~ 175

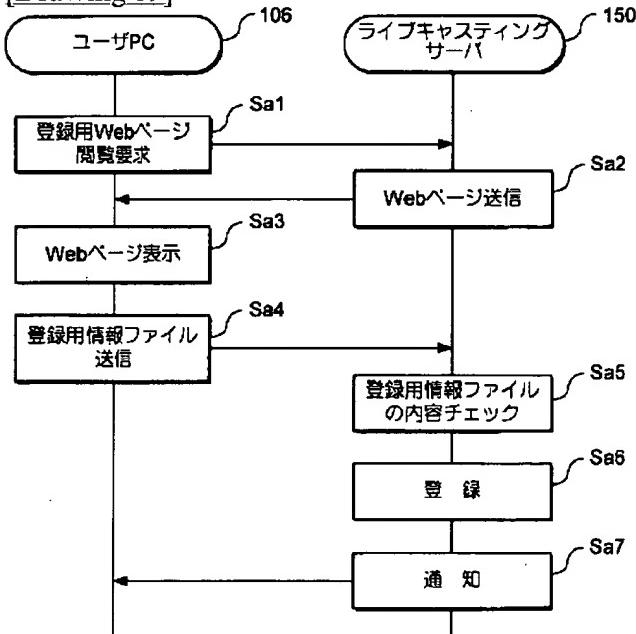
注: 再生するには再生ソフトが必要です。

再生ソフト ~ 176
クリックでダウンロード

[Drawing 17]



[Drawing 19]



[Drawing 20]

メンバ登録用入力画面 210

入力項目	入力欄
氏名（漢字） (ローマ字) 希望ユーザID パスワード 電子メールアドレス メールアドレス公開しますか	△○ 太郎 OO TAROU OOOO ×××× △△△@OOO.com YES

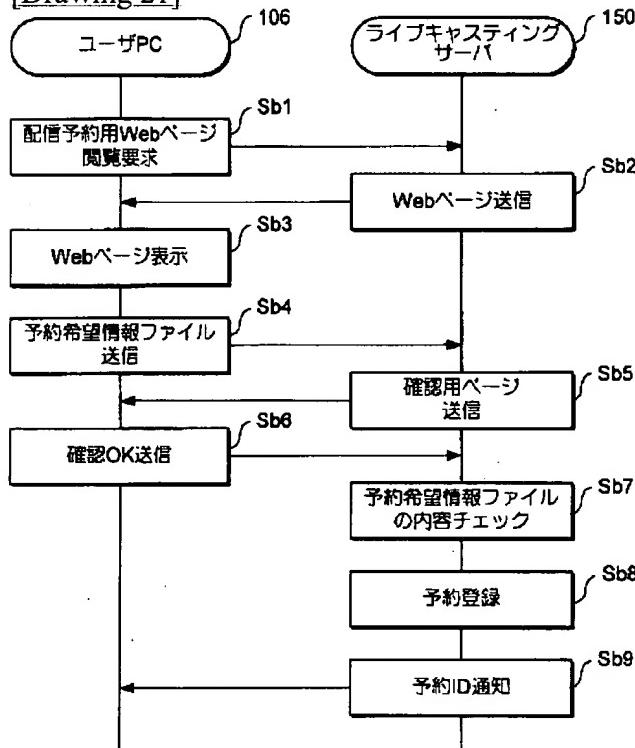
プレミアムメンバ登録をされる方は、チェックボックスを
チェックして下記の入力項目を入力して下さい。

プレミアムメンバ登録 211

入力項目	入力欄
住 所 電話番号 クレジットカード番号 クレジットカード有効期限 携帯電話番号 ファクシミリ番号	OO市OO区OO3-5-5 03-1234-5670 1234-5678-9102 2003年5月 090-1000-2000 03-1234-5671

キャンセル 212 登録 213

[Drawing 21]



[Drawing 22]

7月	2000						
日	月	火	水	木	金	土	
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	
30	31						

220

CH番号	定員	伝送時間	料金	6:00	12:00	18:00	24:00
1	5	26.8	1000円	済	空	済	空 済
2	10	28.8	2000円		空	済	済
3	15	64	3000円	空	済	空 済	
4	50	64	10000円	空	済	空 済	
5	100	64	15000円		済		空
6	150	64	20000円	空	済	空 済	
7	1000	64	50000円	空		済	空

221

222

- ・チャンネル:チャンネル1(定員5名)
- ・予約日時:7月5日 15:00-17:00
- ・公開レベル:Public Password() Secret()
- ・タイトル:× × × ライブ
- ・ジャンル:音楽
- ・電子メール公開:する しない
- ・WEB公開:する(URL)しない
- ・パスワード: * * パスワード * *
- ・友達リスト
 - emailアドレス()()()()
- ・概要:20文字以内
- ・詳細:200文字以内

223 224

予約 キャンセル

[Drawing 23]

・ユーザID:XXXX

・チャンネル:チャンネル1(定員5名)

・予約日時:7月5日 15:00-17:00

・公開レベル:Public Password(× × × ×) Secret(× × × ×)

・タイトル:× × × ライブ

・ジャンル:音楽

・電子メール公開:する しない

・WEB公開:する(URL)しない

・パスワード: * * パスワード * *

・友達リスト

- emailアドレス(○○@××.com)(△△@××.co.jp)(××@○○.com)

・概要:20文字以内

・詳細:200文字以内

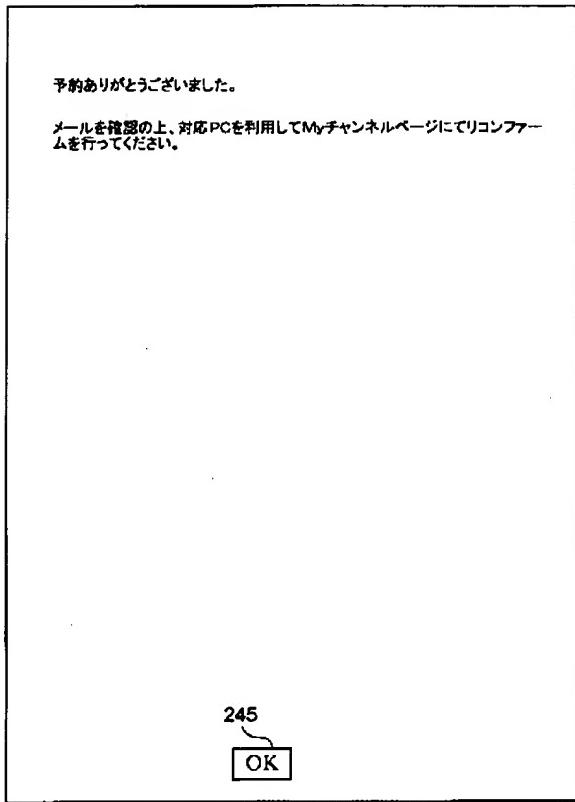
利用料金:xxxx円
この料金以外にアクセスポートまでの電話代が別途通信事業者より請求されます。

△△△@○○○.com
上記メールアドレスが正しいかご確認ください。
上記メールアドレスに予約IDをお送りします。
予約IDを取得しましたら、本書の6時間前までにマイチャンネルにおいてリコンファームを行ってください。
リコンファームがない場合はキャンセル扱いとなります。

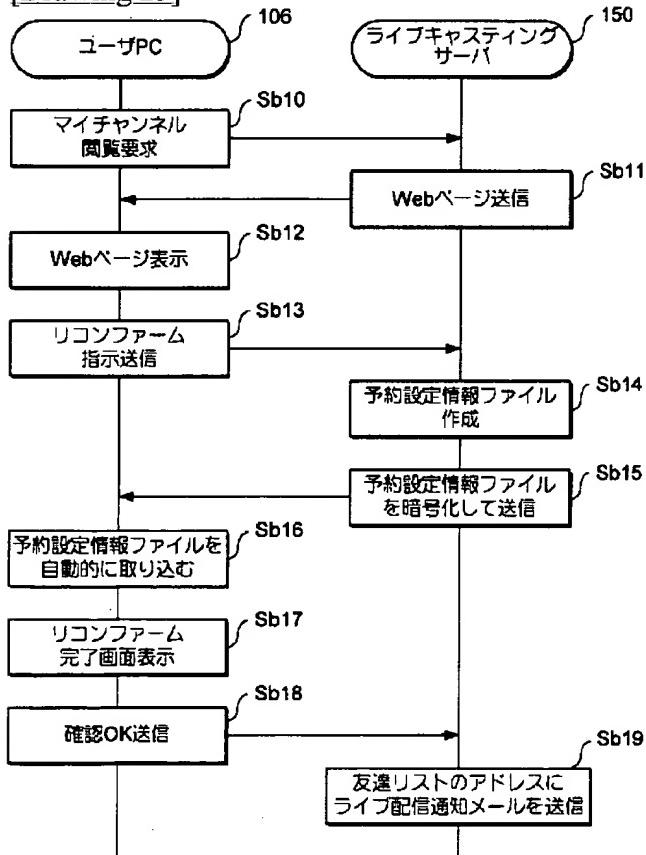
240 241

了解 キャンセル

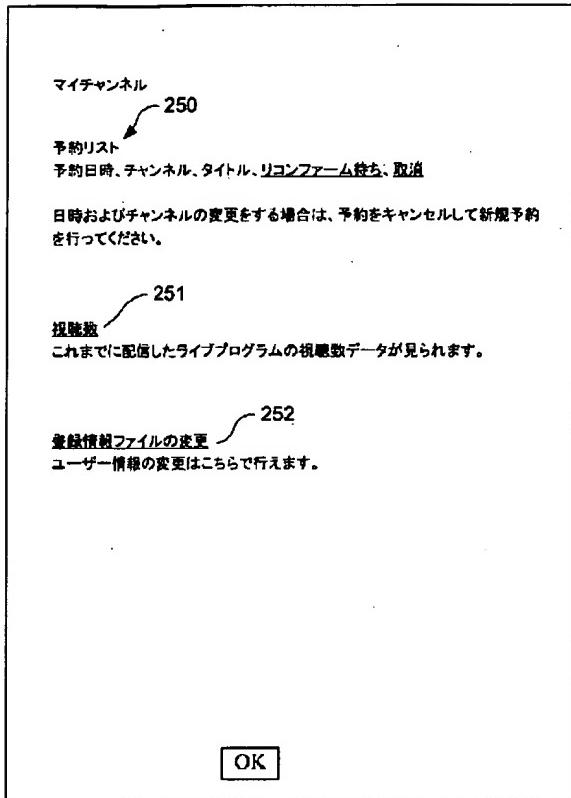
[Drawing 24]



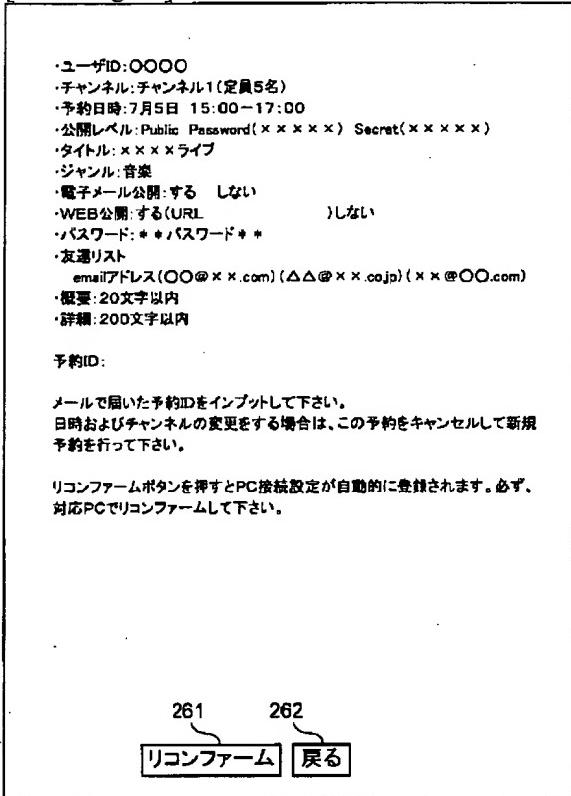
[Drawing 25]



[Drawing 26]



[Drawing 27]



[Drawing 28]

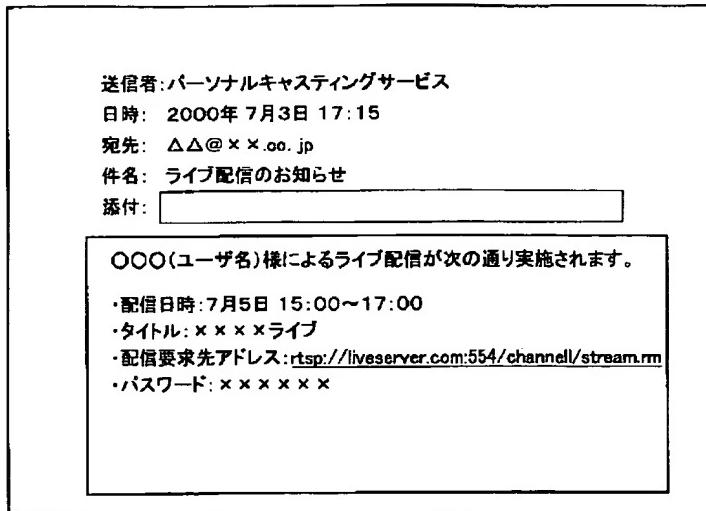
予約ID:XXXX
ライブ配信予約日時:2000-07-05 15:00:00~2000-07-05 17:00:00
サーバ接続可能時間:2000-07-05 14:55:00~2000-07-05 17:05:00
接続用電話番号
事業者O1:03-1234-5670
事業者O2:03-1234-5671
事業者O3:03-1234-5672
事業者O4:03-1234-5673
接続先サーバ情報
サーバの種類:RealServer5
サーバ名:LiveServer.com
接続ポート:555
サーバへのストリームバス:/channell/stream.rm
配信要求先アドレス情報:rtsp://liveserver.com:554/channell/stream.rm
伝送帯域:28.8kbps
タイトル:×××ライブ
概要:-----
公開レベル:-----
友達リストアドレス情報
リスト01:○○@××.com
リスト02:△△@××.co.jp
リスト03:××@○○.com
配信要求パスワード:×××××

予約設定情報ファイル

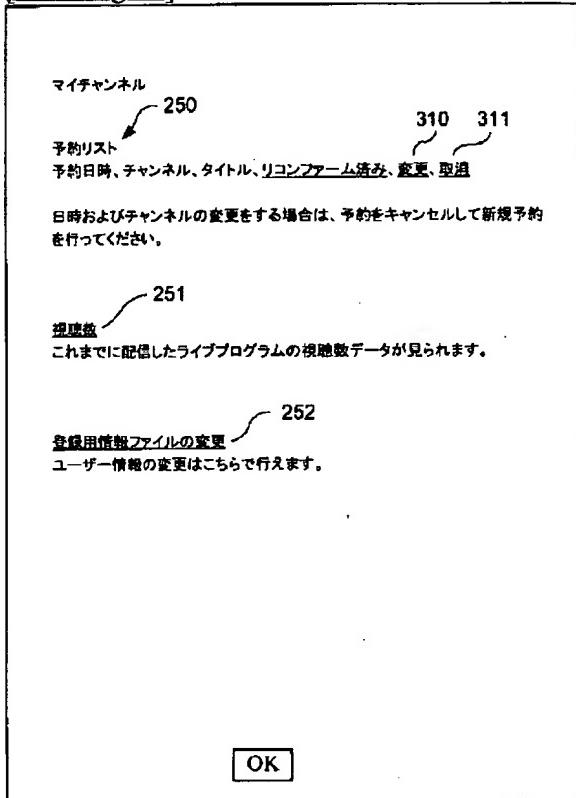
[Drawing 29]

16:16(サービス提供用)
16:08(あなたのPC)
予約が受け付けられました。
上記のとおりサービス提供用時間とあなたのPC時間で時差があります。
ご予約の配信はサービス提供用時間で行われますのでご注意下さい。
サイトへは予約時間の5分前よりアクセス可能です。
ダイアルアップルーターをご利用の場合はダイアル先として以下のとおりご登録ください。この場合ISDN経由の接続のみご利用いただけます。
ISDNアクセスポート番号:03-1234-5679
ログインID:予約ID
パスワード:×××××
OK
291

[Drawing 30]



[Drawing 31]



[Drawing 32]

・ユーザID:0000
 ・チャンネル:チャンネル1(定員5名)
 ・予約日時:7月5日 15:00-17:00
 ・公開レベル:Public Password(×××××) Secret(×××××)
 ・タイトル:××××ライブ
 ・ジャンル:音楽
 ・電子メール公開:する しない
 ・WEB公開:する(URL) しない
 ・パスワード: * * /パスワード * *
 ・友達リスト
 emailアドレス(○○@××.com)(△△@××.co.jp)(××@○○.com)
 ・概要:20文字以内
 ・詳細:200文字以内

予約ID:

メールで届いた予約IDをインプットして下さい。
日時およびチャンネルの変更をする場合は、この予約をキャンセルして新規予約を行ってください。

321 322

[Drawing 33]

17:08(サービス提供用)
17:11(あなたのPC)

変更が受け付けられました。
上記のとおりサービス提供用時間とあなたのPC時間で時差があります。
ご予約の配信はサービス提供用時間で行われますのでご注意下さい。
サイトへは予約時間の5分前よりアクセス可能です。

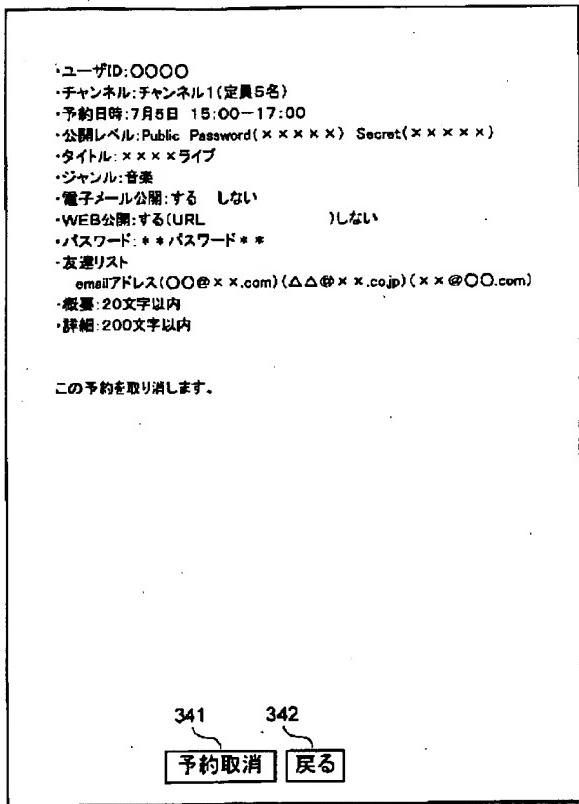
ダイアルアップルーターをご利用の場合はダイアル先として以下のとおりご登録ください。この場合ISDN経由の接続のみご利用いただけます。

ISDNアクセスポート番号:
ログインID:予約ID
パスワード: ××××××

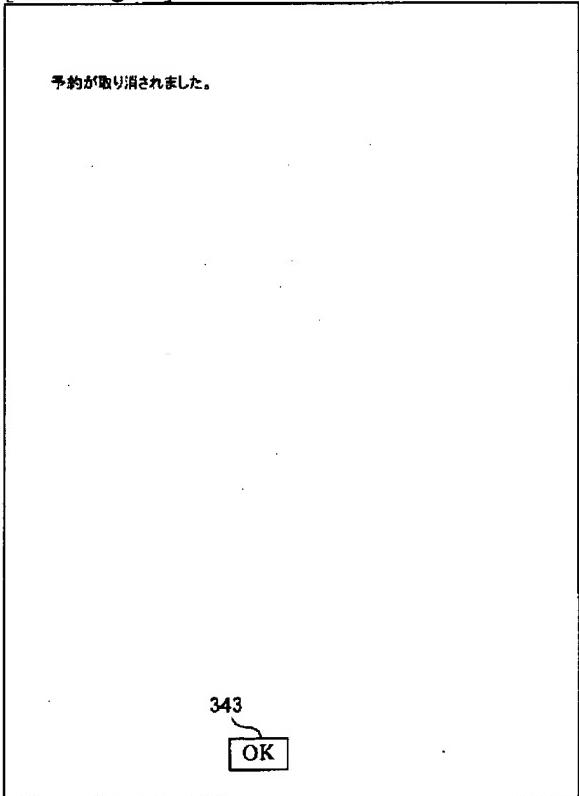
OK

331

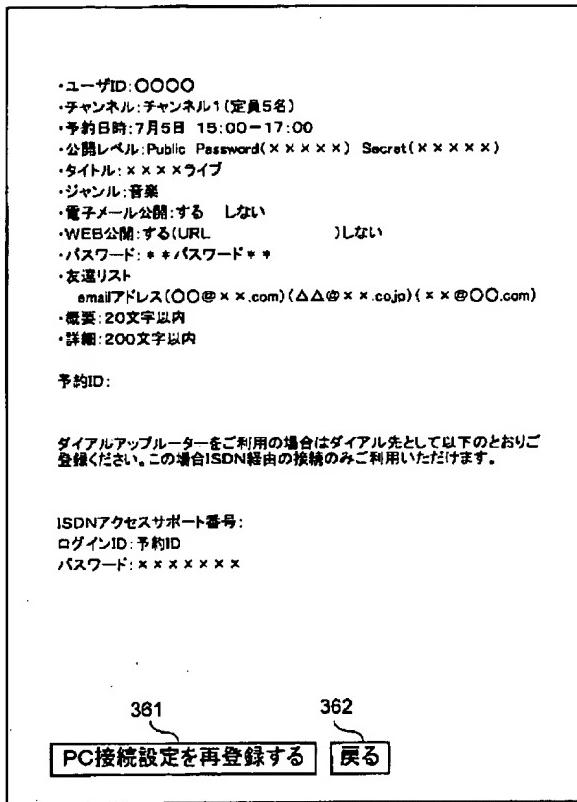
[Drawing 34]



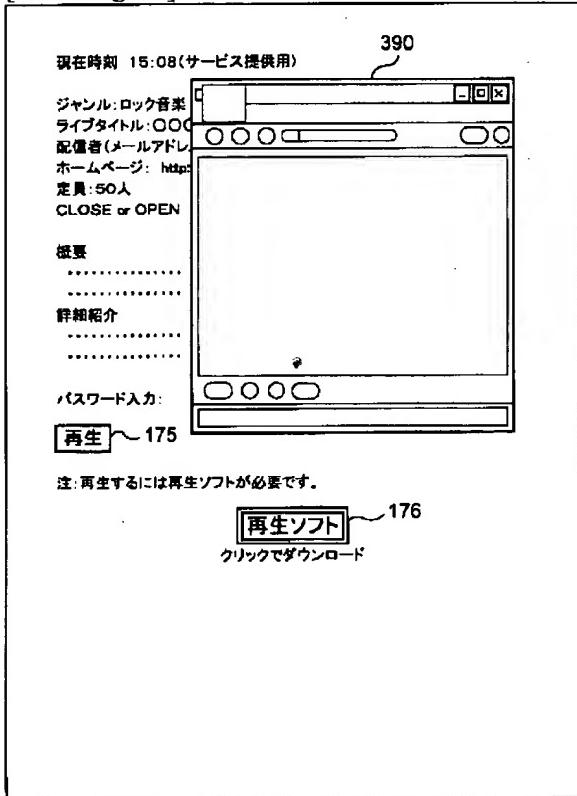
[Drawing 35]



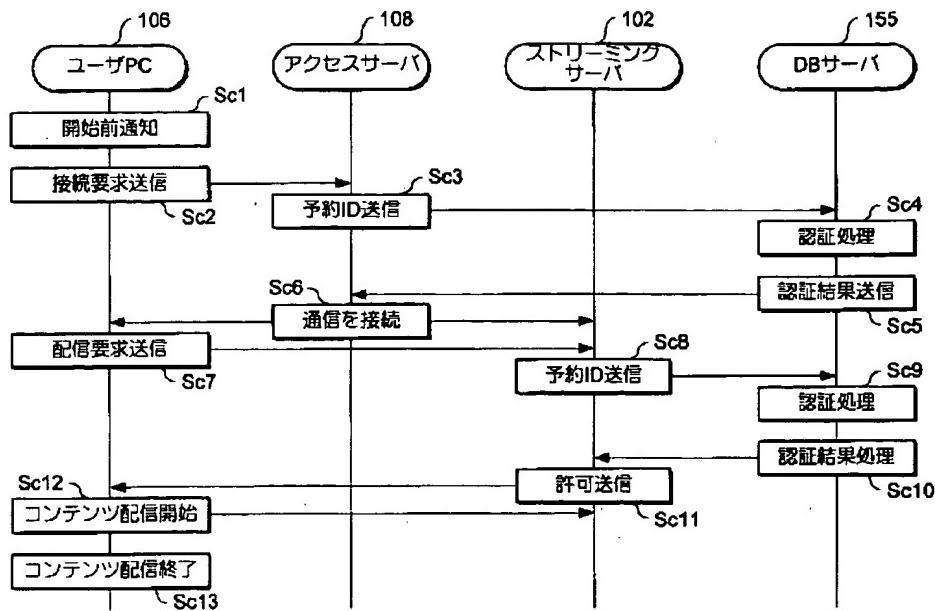
[Drawing 36]



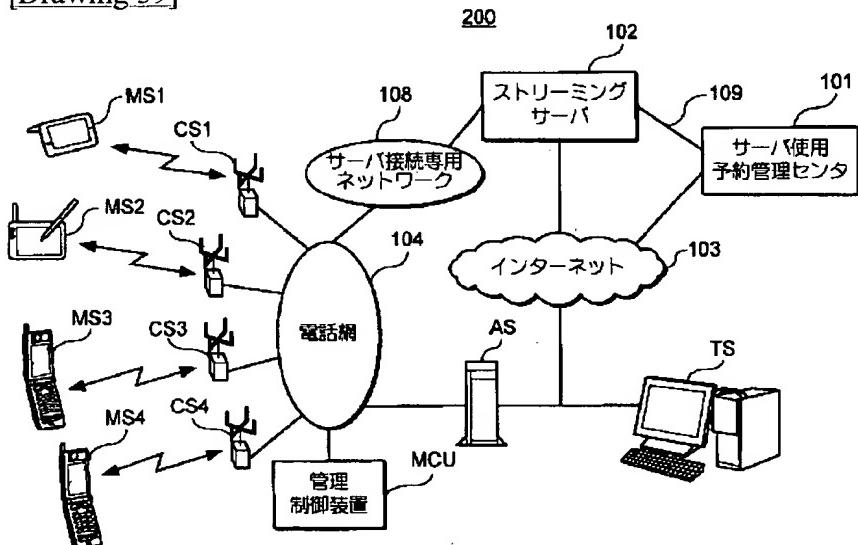
[Drawing 38]



[Drawing 37]

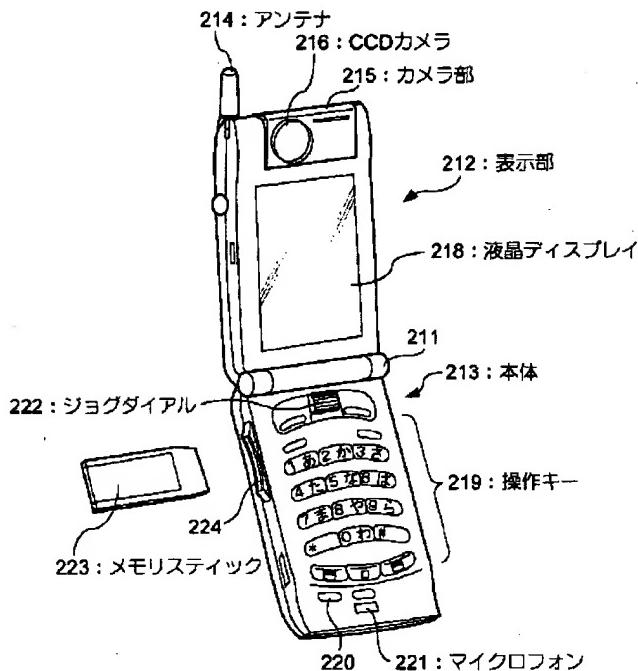


[Drawing 39]



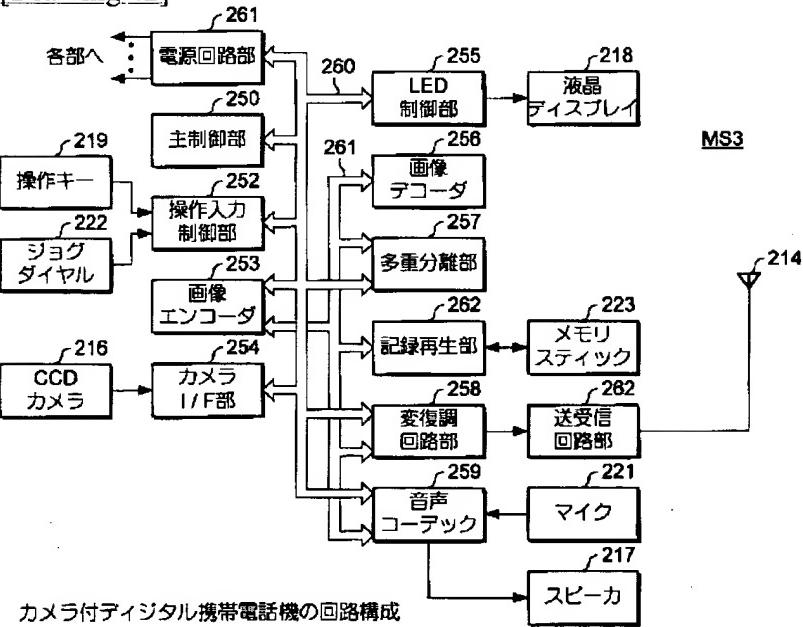
[Drawing 40]

MS3



カメラ付きデジタル携帯電話機の外観構成

[Drawing 42]



(51)Int.Cl. ⁷	識別記号	F I	テーマコード*(参考)
H 04 N 7/173	6 4 0	H 04 N 7/173	6 4 0 A 5 B 0 4 9
	6 1 0		6 1 0 A 5 C 0 2 5
G 06 F 13/00	5 4 0	G 06 F 13/00	5 4 0 S 5 C 0 6 4
17/60	Z E C	17/60	Z E C
	3 0 2		3 0 2 E

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(21)出願番号 特願2000-264565(P2000-264565)

(22)出願日 平成12年8月31日(2000.8.31)

(71)出願人 000002185

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株式会社内

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株式会社内

(74)代理人 100098084

弁理士 川▲崎▼ 研二 (外2名)

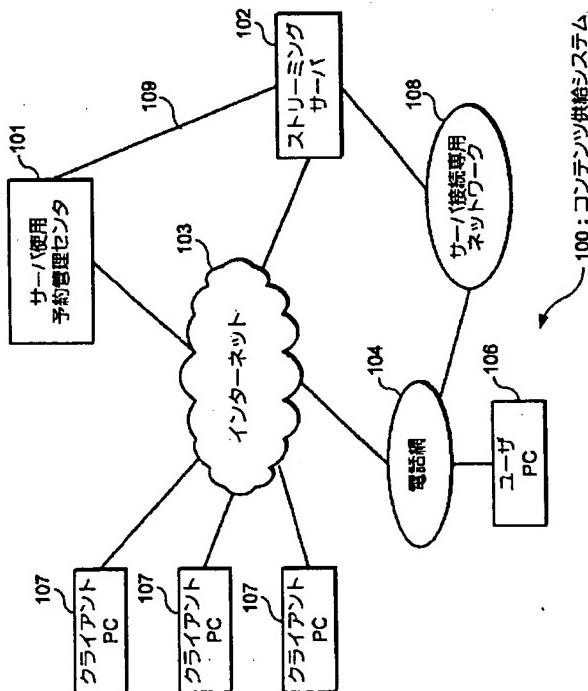
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(54)【発明の名称】コンテンツ配信の予約方法、コンテンツ配信方法、予約管理装置およびプログラム格納媒体

(57)【要約】

【課題】コンテンツのライブ配信を行うための予約をする際に、配信者側でコンテンツの配信先の定員数または使用料金を考慮できるようにする。

【解決手段】コンテンツ供給システム100では、ライブ配信を行うためにストリーミングサーバ102を使用するために、使用するユーザPC106がサーバ使用予約管理センタ101に対して時間帯等の予約をインターネット103を介して行う。ここで、ストリーミングサーバ102は、複数チャンネルの配信用のチャンネルを有しており、同じ時間帯に各チャンネルで配信処理を行うことができる。そして、各チャンネルには、予め使用料金や配信先の定員数が設定されており、ユーザはこれらの設定を考慮してどのチャンネルを使用して配信を行うかを予約の際に指定することができる。



【特許請求の範囲】

【請求項1】 配信者端末装置からネットワークを介して送信されるコンテンツを受信し、クライアント端末装置に対してネットワークを介して前記コンテンツをストリーム配信する処理を複数系統で並行して行うことが可能な配信サーバを使用してコンテンツのライブ配信を行うために、前記配信者端末装置が前記配信サーバの使用予約状況を管理する予約管理装置にネットワークを介して前記配信サーバの使用予約を行う方法であって、

前記配信サーバの前記複数系統のうちのどの系統の使用を希望するかを示す希望系統および前記配信サーバを使用したコンテンツ配信を希望する使用希望時間を含む予約要求情報を、前記配信者端末装置からネットワークを介して前記予約管理装置に送信する予約要求ステップと、

前記予約要求情報に含まれる前記希望系統および前記使用希望時間での前記配信サーバの使用予約が許可されて当該予約が確立した場合に、前記希望系統に予め設定されている前記配信サーバの使用料金に基づいて、前記予約に関する課金処理を行う課金ステップとを具備することを特徴とするコンテンツ配信の予約方法。

【請求項2】 前記配信者端末装置からネットワークを介して前記予約管理装置に対して予約状況の閲覧要求がなされた場合に、前記予約管理装置からネットワークを介して前記配信者端末装置に前記配信サーバの前記系統毎に予め設定されている使用料金を含む予約状況情報を送信し、前記配信者端末装置において当該予約状況情報を表示する予約状況表示ステップをさらに具備することを特徴とする請求項1に記載のコンテンツ配信の予約方法。

【請求項3】 配信者端末装置からネットワークを介して送信されるコンテンツを受信し、クライアント端末装置に対してネットワークを介して前記コンテンツをストリーム配信する処理を複数系統で並行して行うことが可能な配信サーバの使用予約を予約管理装置に対して行い、当該予約に基づいて前記配信者端末装置から前記コンテンツを前記配信サーバに送信してコンテンツ配信を行う方法であって、前記配信サーバの前記複数系統のうちのどの系統の使用を希望するかを示す希望系統および前記配信サーバを使用したコンテンツ配信を希望する使用希望時間を含む予約要求情報を、前記配信者端末装置からネットワークを介して前記予約管理装置に送信する予約要求ステップと、

前記予約要求情報に含まれる前記希望系統および前記使用希望時間での前記配信サーバの使用予約が許可された場合に、当該許可された予約に基づいてコンテンツ配信を行うために、前記配信者端末装置からネットワークを介して前記配信サーバにコンテンツを送信するコンテンツ送信ステップと、

前記クライアント端末装置からネットワークを介して前記配信サーバに対してコンテンツの配信要求がなされた場合に、前記希望系統に予め設定されている配信先の定員数に基づいて当該クライアント端末装置の配信要求を許可するか否かを判別する判別ステップと、

前記クライアント端末装置の配信要求を許可する場合に、前記配信者端末装置から送信されたコンテンツを前記配信サーバからネットワークを介して前記クライアント端末装置にストリーム配信する配信ステップとを具備することを特徴とするコンテンツ配信方法。

【請求項4】 前記配信者端末装置からネットワークを介して前記予約管理装置に対して予約状況の閲覧要求がなされた場合に、前記予約管理装置からネットワークを介して前記配信者端末装置に前記配信サーバの前記系統毎に予め設定されている配信先の定員数を含む予約状況情報を送信し、前記配信者端末装置において当該予約状況情報を表示する予約状況表示ステップをさらに具備することを特徴とする請求項3に記載のコンテンツ配信方法。

【請求項5】 クライアント端末装置に対してネットワークを介した前記コンテンツのストリーム配信処理を複数系統で並行して行うことが可能な配信サーバを使用したコンテンツのライブ配信の予約を管理する予約管理装置であって、

コンテンツのライブ配信を希望する配信者端末装置からネットワークを介して送信される前記配信サーバの前記複数系統のうちのどの系統の使用を希望するかを示す希望系統および前記配信サーバを使用したコンテンツ配信を希望する使用希望時間を含む予約要求情報を受信する受信手段と、

前記予約要求情報に含まれる前記希望系統および前記使用希望時間での前記配信サーバの使用予約を許可して当該予約を確立した場合に、前記希望系統に予め設定されている前記配信サーバの使用料金に基づいて、前記予約に関する課金処理を行う課金手段とを具備することを特徴とする予約管理装置。

【請求項6】 前記配信者端末装置からネットワークを介して前記予約管理装置に対して予約状況の閲覧要求がなされた場合に、前記予約管理装置からネットワークを介して前記配信者端末装置に前記配信サーバの前記系統毎に予め設定されている使用料金を含む予約状況情報を送信する予約状況送信手段をさらに具備することを特徴とする請求項5に記載の予約管理装置。

【請求項7】 クライアント端末装置に対してネットワークを介した前記コンテンツのストリーム配信処理を複数系統で並行して行うことが可能な配信サーバを使用したコンテンツのライブ配信の予約を管理する予約管理装置であって、

コンテンツのライブ配信を希望する配信者端末装置からネットワークを介して送信される前記配信サーバの前記

複数系統のうちのどの系統の使用を希望するかを示す希望系統および前記配信サーバを使用したコンテンツ配信を希望する使用希望時間を含む予約要求情報を受信する受信手段と、

前記クライアント端末装置からネットワークを介して前記配信サーバに対してコンテンツの配信要求がなされた場合に、前記希望系統に予め設定されている配信先の定員数に基づいて当該クライアント端末装置の配信要求を許可するか否かを判別する判別手段とを具備することを特徴とする予約管理装置。

【請求項8】 前記配信者端末装置からネットワークを介して前記予約管理装置に対して予約状況の閲覧要求がなされた場合に、前記予約管理装置からネットワークを介して前記配信者端末装置に前記配信サーバの前記系統毎に予め設定されている配信先の定員数を含む予約状況情報を送信する予約状況送信手段をさらに具備することを特徴とする請求項7に記載の予約管理装置。

【請求項9】 クライアント端末装置に対してネットワークを介した前記コンテンツのストリーム配信処理を複数系統で並行して行うことが可能な配信サーバを使用したコンテンツのライブ配信の予約を管理する予約管理装置に実行させるプログラムであって、

コンテンツのライブ配信を希望する配信者端末装置からネットワークを介して送信される前記配信サーバの前記複数系統のうちのどの系統の使用を希望するかを示す希望系統および前記配信サーバを使用したコンテンツ配信を希望する使用希望時間を含む予約要求情報を受信する受信処理と、前記予約要求情報に含まれる前記希望系統および前記使用希望時間での前記配信サーバの使用予約を許可して当該予約を確立した場合に、前記希望系統に予め設定されている前記配信サーバの使用料金に基づいて、前記予約に関する課金を行う課金処理とを具備することを特徴とするプログラムを記憶したプログラム格納媒体。

【請求項10】 クライアント端末装置に対してネットワークを介した前記コンテンツのストリーム配信処理を複数系統で並行して行うことが可能な配信サーバを使用したコンテンツのライブ配信の予約を管理する予約管理装置に実行させるプログラムであって、

コンテンツのライブ配信を希望する配信者端末装置からネットワークを介して送信される前記配信サーバの前記複数系統のうちのどの系統の使用を希望するかを示す希望系統および前記配信サーバを使用したコンテンツ配信を希望する使用希望時間を含む予約要求情報を受信する受信処理と、

前記クライアント端末装置からネットワークを介して前記配信サーバに対してコンテンツの配信要求がなされた場合に、前記希望系統に予め設定されている配信先の定員数に基づいて当該クライアント端末装置の配信要求を許可するか否かを判別する判別処理とを具備することを

特徴とするプログラムを記憶したプログラム格納媒体。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、クライアントに対してコンテンツのストリーム配信を行う配信サーバを使用してコンテンツのライブ配信を行うコンテンツ配信の予約を行うコンテンツ配信の予約方法、コンテンツ配信方法、当該コンテンツ配信の予約を管理する予約管理装置、および当該予約管理装置に実行させるプログラムを記憶したプログラム格納媒体に関する。

【0002】

【従来の技術】従来、コンピュータネットワークシステムにおいて、例えば個人が作成したコンテンツをインターネットを介して提供する場合、個人でホームページを開設することが一般的に行われている。

【0003】このように個人でホームページを開設する場合、ユーザはパーソナルコンピュータ（以下、PCという）を介してホームページ作成プログラムを入手し、当該ホームページ作成プログラムに基づいて複数のコンテンツとハイパーリンクしたホームページを制作し、これをインターネットサービスプロバイダ（以下、ISPという）のサーバに蓄積しておく。

【0004】そして、ISPは、インターネットを介してアクセスしてきたクライアントに対してサーバからホームページを提供し、そのホームページ上のアンカーがクリックされた場合、リンクされたコンテンツを統一して提供するようになされている。

【0005】近年では、上述したようにインターネットを介してクライアントに提供されるコンテンツとして、静止画以外にも、動画像や音声など多く制作されている。このような動画像等のコンテンツを提供する場合には、ISPのストリーミングサーバの所定の記憶領域にユーザが作成した動画像ファイルや音声ファイルを予めアップロードしておく。そして、クライアントから要求が合った場合には、ISPのストリーミングサーバは要求に応じたファイルをクライアントに対してインターネットを介してストリーム配信するようになっている。

【0006】また、動画像などのコンテンツをインターネットを介してクライアントにストリーム配信する手法としては、動画像ファイルをストリーミングサーバに予めアップロードしておき、上記のようにクライアントから要求に応じて配信する「オンデマンド配信」の他に、「ライブ配信」といった手法による配信も行われている。ライブ配信では、コンテンツ制作者により作成、例えばディジタルカメラによる撮影により作成された動画像データをリアルタイムでエンコードし、これをインターネット等を介してストリーミングサーバに送信することになる。そして、ストリーミングサーバは、このようにコンテンツ制作者からリアルタイムで供給される動画像データを専用の記憶領域に記録しながらストリーミ

ング再生することにより、要求のあったクライアントにリアルタイムで提供することができるようになっていく。

【0007】

【発明が解決しようとする課題】ところで、上述したようなライブ配信を行う際に、コンテンツ配信者としては、配信するコンテンツを多くの人に視聴してもらいたい場合もあれば、それほど多くの人に視聴してもらわなくてよいと思う場合もある。また、配信するコンテンツによっては、ライブ配信のための費用が増加しても多くの人に視聴してもらいたい場合もあるし、少ない人にしか視聴されなくてもライブ配信のための費用を抑制したいといった場合もある。すなわち、配信するコンテンツ等によって、コンテンツ配信者が希望する視聴可能な最大人数や費用等は変化するものであり、これらを考慮したライブ配信が行えるサービスは、配信者にとって有意義なものであるといえる。

【0008】本発明は、上記の事情を考慮してなされたものであり、コンテンツのライブ配信を行うための予約をする際に、配信者側でコンテンツの配信先の定員数または使用料金を考慮した予約を行うことが可能なコンテンツ配信の予約方法、コンテンツの配信予約を管理する予約管理装置、予約管理装置に実行させるプログラムを記憶したプログラム格納媒体、および当該予約に基づいてコンテンツのライブ配信を行うことが可能なコンテンツ配信方法を提供することを目的とする。

【0009】

【課題を解決するための手段】上記課題を解決するため、本発明においては、配信者端末装置からネットワークを介して送信されるコンテンツを受信し、クライアント端末装置に対してネットワークを介して前記コンテンツをストリーム配信する処理を複数系統で並行して行うことが可能な配信サーバを使用してコンテンツのライブ配信を行うために、配信者端末装置が配信サーバの使用予約状況を管理する予約管理装置にネットワークを介して配信サーバの使用予約を行う際に、次のような手順を踏む。まず、配信サーバの前記複数系統のうちのどの系統の使用を希望するかを示す希望系統および配信サーバを使用したコンテンツ配信を希望する使用希望時間を含む予約要求情報を、配信者端末装置からネットワークを介して予約管理装置に送信する。そして、予約要求情報に含まれる希望系統および使用希望時間での配信サーバの使用予約が許可されて当該予約が確立した場合に、希望系統に予め設定されている配信サーバの使用料金に基づいて、予約に関する課金処理を行う。

【0010】このように配信サーバを使用したコンテンツライブ配信を行う場合に、予約制を採用することにより、コンテンツの配信者によって予約した時間帯に確実にコンテンツ配信が行えるようになる。また、予約を行う際に、配信サーバの複数系統のいずれの使用を希望するかを示す希望系統を予約要求情報に含ませて配信者端末装置から予約管理装置に送信することにより、配信サーバの複数系統のうちどの系統の使用を希望するかを指定することができる。そして、この希望に沿った予約が確立すると、当該希望した系統に予め設定されている配信先の定員数に基づいて、配信要求のあったクライアント端末装置に対して配信をすべきか否かが判別される。したがって、配信者は、配信するコンテンツをどの程度の人数に視聴してもらいたいかといった希望を考慮し、予め設定されている定員数に応じて系統を選択し、予約

るかを示す希望系統を予約要求情報に含ませて配信者端末装置から予約管理装置に送信することにより、配信サーバの複数系統のうちどの系統の使用を希望するかを指定することができる。そして、この希望に沿った予約が確立すると、当該希望した系統に予め設定された使用料金に基づいた課金処理が行われることになる。したがって、配信者は、コンテンツ配信のための費用等を考慮し、予め設定されている使用料金に応じて系統を選択し、予約の際に当該系統を使用することを希望することができる。

【0011】また、本発明の別態様においては、配信者端末装置からネットワークを介して送信されるコンテンツを受信し、クライアント端末装置に対してネットワークを介してコンテンツをストリーム配信する処理を複数系統で並行して行うことが可能な配信サーバの使用予約を予約管理装置に対して行い、当該予約に基づいて配信者端末装置からコンテンツを配信サーバに送信してコンテンツ配信を行う際に、次のような手順を踏む。まず、配信サーバの複数系統のうちのどの系統の使用を希望するかを示す希望系統および配信サーバを使用したコンテンツ配信を希望する使用希望時間を含む予約要求情報を、配信者端末装置からネットワークを介して予約管理装置に送信する。この後、予約要求情報に含まれる希望系統および使用希望時間での配信サーバの使用予約が許可された場合に、当該許可された予約に基づいてコンテンツ配信を行うために、配信者端末装置からネットワークを介して配信サーバにコンテンツを送信する。そして、クライアント端末装置からネットワークを介して配信サーバに対してコンテンツの配信要求がなされた場合に、希望系統に予め設定されている配信先の定員数に基づいて当該クライアント端末装置の配信要求を許可するか否かを判断する。次に、クライアント端末装置の配信要求を許可する場合に、前記配信者端末装置から送信されたコンテンツを前記配信サーバからネットワークを介して前記クライアント端末装置にストリーム配信する。

【0012】このように配信サーバを使用したコンテンツライブ配信を行う場合に、予約制を採用することにより、コンテンツの配信者によって予約した時間帯に確実にコンテンツ配信が行えるようになる。また、予約を行う際に、配信サーバの複数系統のいずれの使用を希望するかを示す希望系統を予約要求情報に含ませて配信者端末装置から予約管理装置に送信することにより、配信サーバの複数系統のうちどの系統の使用を希望するかを指定することができる。そして、この希望に沿った予約が確立すると、当該希望した系統に予め設定されている配信先の定員数に基づいて、配信要求のあったクライアント端末装置に対して配信をすべきか否かが判別される。したがって、配信者は、配信するコンテンツをどの程度の人数に視聴してもらいたいかといった希望を考慮し、予め設定されている定員数に応じて系統を選択し、予約

の際に当該系統を使用することを希望することができる。

【0013】

【発明の実施の形態】以下、図面を参照して本発明の実施形態について説明する。

A. コンテンツ供給システムの構成

A-1. システム全体の概略構成

まず、図1は本発明の一実施形態に係るコンテンツ配信の予約方法を利用したパーソナルキャスティング(Personal Casting)サービスを提供するコンテンツ供給システム100の全体構成を示すブロック図である。

【0014】図1に示すように、このコンテンツ供給システム100は、インターネット103に図示せぬインターネットサービスプロバイダおよび電話網104を介して接続されるユーザPC(配信者端末装置)106と、インターネット103に接続されるサーバ使用予約管理センタ101およびストリーミングサーバ(処理サーバ)102と、インターネット103に電話網(図示略)や専用回線(図示略)を介して接続される複数(図示は3つ)のクライアントPC107とを備えている。ここで、ストリーミングサーバ102は、サーバ接続専用ネットワーク108に接続されており、後述するライブ配信時にユーザPC106からストリーミングサーバ102にデータを送信する際には、ユーザPC106は、電話網104を介してサーバ接続専用ネットワーク108のアクセスポートにPPP(Point-to-Point Protocol)接続する。PPP接続する手段としては、アナログ公衆網、ISDN(Integrated Services Digital Network)、PHS(PIAFS(Personal Handyphone System Internet Access Forum Standard))、携帯電話、ダイアルアップルータ経由などが使用される。これにより、ユーザPC106とストリーミングサーバ102との間での通信経路が確立され、この通信経路を用いてコンテンツデータの送信を行うことになる。また、ストリーミングサーバ102とサーバ使用予約管理センタ101との間も専用線109が敷設されており、後述する認証処理等の際には当該専用線109を介して両者間でデータの授受が行われるようになっている。

【0015】このコンテンツ供給システム100では、予め予約しておいた時間帯(例えば、15:00~16:00)に、ユーザPC106のユーザがデジタルカメラ等で撮影しているコンテンツデータ(例えば、音楽ライブを撮影した映像データ等)をストリーミングサーバ102に送信する一方で、ストリーミングサーバ102は要求のあったクライアントPC107に対して上記コンテンツデータをストリーム配信する。このようにすることでコンテンツ供給システム100は、ユーザPC106のユーザがデジタルカメラ等で撮影したコンテンツデータを、クライアントPC107側においてリアルタイムで受信して再生するといった個人放送を実現

させるパーソナルキャスティングサービスを提供することができるようになっている。

【0016】また、このコンテンツ供給システム100では、ユーザが所望の時間に確實に個人放送の発信を行えるようなパーソナルキャスティングサービスを実現するため、各ユーザのストリーミングサーバ102へアクセスおよび使用の予約制を採用している。すなわち、ユーザは、個人放送を行うことを希望する時間帯、つまりユーザ(のPC)がストリーミングサーバ102へアクセスして当該ストリーミングサーバ102によるストリーム配信機能の使用を希望する時間帯の予約をインターネット103を介してサーバ使用予約管理センタ101に要求する。そして、サーバ使用予約管理センタ101によって予約が許可された場合には、ユーザPC106がこの予約に基づいた時間帯にストリーミングサーバ102にアクセスしてライブ配信を行えるようにしている。

【0017】コンテンツ供給システム100は、上述したような予約制を導入したパーソナルキャスティングサービスを提供するシステムであるが、以下、このコンテンツ供給システム100の各構成要素について詳細に説明する。

【0018】A-2. ユーザPC

まず、ユーザPC106について説明する。本実施形態では、ユーザPC106は、コンテンツ供給システム100によるパーソナルキャスティングサービスにおいて、後述する登録手続処理等を経た後、コンテンツデータを作成して発信する放送者側となりうる権利を有するユーザが上記コンテンツデータの発信等に使用するPCをいうものとする。

【0019】図2に示すように、ユーザPC106は、各種演算処理を行うとともに各部を制御するCPU(中央処理装置)120、CPU120のワークメモリとして使用されるRAM(Random Access Memory)121、CPU120に読み出されて実行されるプログラム群を格納したROM(Read only Memory)122、CPU120に読み出されて実行されるオペレーティングシステム(例えば、「Windows95/98/2000」(マイクロソフト社))やアプリケーションプログラム等のプログラム群を格納したハードディスク123、ユーザに対して画像を表示する液晶ディスプレイ等の表示部124、CPU120から供給されたデータに応じた画像を表示部124に表示させるための表示用インターフェース125、ユーザが指示を入力するためのキーボード、マウス、後述する回転式ダイヤルおよび操作ボタン等の操作部126、操作部126を介して入力された指示を表すデータをCPU120へ供給する操作部用インターフェース127、電話網104(図1参照)を介してインターネット103(図1参照)やサーバ接続専用ネットワーク108(図1参照)に接続された装置との間でデータの授受

を行うネットワークインターフェース128、ユーザPC106内に内蔵されるディジタルビデオカメラ129を備えている。なお、ハードディスク123はCPU120に読み書きされるものであり、動画像データや各種制御用データの保管にも使用される。

【0020】ここで、図3は、上記のようなディジタルビデオカメラ129を内蔵したユーザPC106の外観構成例を示す。図3(a)に示すように、この例に示すユーザPC106は、一般的なノートブック型パーソナルコンピュータと同様に、液晶画面124aを配置する表示側筐体部106aと、キーボード126aを配置するキーボード側筐体部106bとを有しており、両者がヒンジ部106cによって相対回転可能に連結されている。また、表示側筐体部106aは、キーボード側筐体部106bに対して図中矢印Aで示す方向に相対回転することも可能になされている。さらに、表示側筐体部106aの一端側には、回転式の操作ダイヤル126bが設けられている。この操作ダイヤル126bは、回転操作だけではなく、押圧操作を行うことも可能となっている。

【0021】キーボード側筐体部106bの一方の側端面には、複数(図示は4つ)の操作ボタン126cを配置したボタン筐体部106eと、上述したディジタルビデオカメラ129とが取り付けられている。ここで、ボタン筐体部106eは、図示のように固定取り付けされている。一方、ディジタルビデオカメラ129は、キーボード側筐体部106bの側端面の一点で回転自在に支持されており、これにより図中矢印Bで示す方向に回転自在になされている。

【0022】このような構造の下、ユーザPC106は、図3(a)に示す一般的なノート型パーソナルコンピュータと類似した形態の他に、図3(b)～図3(d)に示すような形態で使用することが可能となる。例えば、図3(b)に示すような形態で使用すれば、ユーザが当該ユーザPC106を把持して、ユーザ自身をディジタルビデオカメラ129によって撮影することができる。この際、図示のように液晶画面124aがユーザ側に向かっているため、ユーザはどのような映像が撮影されているかを確認しながら、撮影を行うことができる。このような形態で使用する場合、キーボード126aは、ユーザの裏側に位置するため、ユーザが正確な操作をすることは困難である。この点を考慮し、後述するアプリケーションプログラムにしたがった処理におけるディジタルビデオカメラ129の撮影や撮影映像の加工等に関する操作(例えば、撮影開始、停止、ズーム、エフェクトの付加、動画像データの保存、送信等を指示するための操作)は、上述した操作ダイヤル126bおよび操作ボタン126cを適宜操作することにより行えるようになっている。また、図3(c)に示すような形態で使用すれば、ユーザがユーザPC106を把持して

液晶画面124aを見ながら正面にいる撮影対象を撮影することができる。

【0023】図2に戻り、ユーザPC106は、図示せぬ電源の投入や操作部126により入力されるユーザの指示に基づいてCPU120がROM122及びハードディスク123に格納されたアプリケーションプログラムを実行することにより、上述したコンテンツ供給システム100のサービスを受けた動画像データ配信処理、動画像データ作成・加工処理、WWW(World-Wide Web)ブラウジングなどの多種の処理を行うように構成されている。以下、このアプリケーションプログラムにしたがった処理をCPU120が実行することにより実現される様々な機能に着目し、ユーザPC106の機能について表示画面等を参照しながら説明する。

【0024】まず、ユーザPC106において、上記アプリケーションプログラムを実行させると、CPU120の制御により表示部124には図4に示すような初期画面の表示がなされる。同図に示すように、この初期画面では、ディジタルビデオカメラ129により撮影された画像等を表示する大サイズの主画像表示エリア40と、前回の当該アプリケーションプログラム実行時の最後に撮影された画像等のプレビューが表示される小サイズの副画像表示エリア41が画面右上側に表示される。また、副画像表示エリア41の下側には、モード(mode)、画像の種類(camera)、設定(setting)および指示内容(operation)を選択させるためのGUI(Graphical User Interface)が表示される。ユーザは、これらの項目を適宜選択設定することにより、モード選択、静止画(STILL)または動画(MOVIE)といった画像の種類選択、設定変更および指示入力等を行うことができるようになっている。

【0025】ここで、当該アプリケーションにおいては、ユーザは、撮影モード(GUI上の「撮る」を選択した場合のモード)、アップロードモード(GUI上の「見る・送る」を選択した場合のモード)、Web確認モード(GUI上の「Webを見る」を選択した場合のモード)、ライブ予約モード(GUI上の「ライブ予約／確認へ」を選択した場合のモード)およびライブ配信モード(GUI上の「ライブ配信へ」を選択した場合のモード)といった5つのモードが選択できるようになっている。なお、当該アプリケーションプログラム起動時の初期状態においては、撮影モードが選択されている。

【0026】撮影モードは、ユーザPC106が内蔵するディジタルビデオカメラ129により撮影を行うモードであり、このモードを選択した場合や初期状態には、CPU120の制御により図5(a)に示すような画面が表示される。同図に示すように、撮影モードにおける表示画面には、上述した初期画面(図4参照)と同様に、主画像表示エリア40および副画像表示エリア41が表示されており、主画像表示エリア40には現在撮影

中の画像が表示され、副画像表示エリア41には現在の撮影前の最後に撮影した画像のプレビューが表示される。

【0027】このモードにおいても、副画像表示エリア41の下側には、上述したGUIが表示される。図5(b)に示すように、このモードにおけるGUIには、上述した「mode」、「camera」、「setting」および「operation」といった選択項目が表示され、このモードにおける「operation」の選択項目には、画像のキャプチャを指示するための項目（「キャプチャ」）、インターネットに接続／切断することを指示する項目（「ネット接続／切断」）等があり、操作ダイヤル126bを回転操作することによりフォーカスF（太線で図示）を所望の項目上に移動させた後、操作ダイヤル126bを押圧操作することで所望の項目を選択して決定することができるようになっている。

【0028】また、この撮影モードにおいて、ボタン筐体部106eに設けられた操作ボタン126c（図3参照）に、画像撮影の際に必要となるコマンド等（例えば、画像に付与するエフェクトの選択等を指示するコマンド）を割り当てておけば、ユーザは、キーボード126a（図3参照）を用いずに、操作ダイヤル126bおよび操作ボタン126cのみの操作で撮影モード上での操作を行うことができ、図3(b)や図3(c)に示すようなキーボード126aが操作しづらい位置にある形態での撮影操作を容易に行うことが可能となる。なお、操作ボタン126cは、デフォルトとして上記のようなコマンドを割り当てるようにしてよいが、この撮影モードや以下に説明する他のモードにおいて、各モード毎にユーザが任意に操作ボタン126cに割り当てるコマンドを選択できるようにしてよい。このようにすれば、ユーザが各モードで使用頻度の高いコマンドを操作ボタン126cに割り当てるように設定することにより、各モードにおいて、キーボード126aを操作する必要性が減少し、操作性が向上する。

【0029】図5(a)に示す画面下方側に表示されるステータスウィンドウSWは、現在のユーザPC106の状態（例えば、バッテリ残量やハードディスクドライブの残記憶容量等）、選択しているモードにおける処理状態（例えば、撮影している画像のデータサイズ、指定している保存先（ハードディスクやネットワーク等）、操作ボタン126cのコマンド割り当て等の情報が表示される。

【0030】次に、アップロードモードは、上述した撮影モードで撮影した画像データを表示させて参照したり、画像データを選択してインターネット103（図1参照）に接続された所定のアップロード先のサーバ（不図示）に送信するモードである。このモードを選択した場合には、図6(a)に示すような画面がCPU120の制御により表示部124に表示される。同図に示すよ

うに、アップロードモードにおける表示画面には、プレビューエリア42と、撮影した画像を並べて（図示の例では縦に並べている）表示する一覧表示エリア43と、GUIと、ステータスウィンドウSWと、送信カプセルアイコンSCとが表示されている。

【0031】図6(b)に示すように、アップロードモードにおけるGUIの「operation」には、インターネットに接続／切断することを指示する項目（「ネットに接続／切断」）、画像データの送信開始／終了を指示する項目（「送信開始／終了」）、一覧表示エリア43へのフォーカスFの移動を指示する項目（「フォーカス移動」）、送信カプセルアイコンSCの中を見る、すなわち送信するように選択している画像データの一覧を見るなどを指示する項目（「送信カプセル参照」）等があり、上記撮影モードと同様に、操作ダイヤル126bを回転操作することにより所望の項目にフォーカスFを移動させた後、操作ダイヤル126bを押圧することで所望の項目を選択することができるようになっている。

【0032】また、アップロードモードにおいては、操作ボタン126cには、プレビューエリア42への動画像の再生／停止や、静止画像の表示等を指示するコマンドが割り当てられている。また、このモードにおけるステータスウィンドウSWには、画像データのファイル名、ファイルサイズ、フォーマット（JPEG (Joint Photographic Experts Group) やMPEG (Moving Picture Experts Group) など）や、現在指定されている送信先を示す情報（アップロードするサーバ名やそのURL (Uniform Resource Locator)）が表示される。

【0033】ここで、一覧表示エリア43へのフォーカスFの移動を指示する項目（「フォーカス移動」）を選択した場合には、フォーカスFが一覧表示エリア43上に移動する。このようにフォーカスFが一覧表示エリア43上に移動すると、操作ダイヤル126bの回転操作に応じてフォーカスFが一覧表示される画像上を順次移動することになる。ユーザは、ある画像データを送信したい場合には、操作ボタン126cを回転操作して当該画像データ上にフォーカスFを移動させる。そして、操作ダイヤル126bを押圧操作すると、図6(a)に示すように、その画像データに対する処理を指示するためのSUBGUIが表示され、このSUBGUIの項目上にフォーカスFが移動する。図6(c)に示すように、SUBGUIには「保存」、「削除」、「プレビュー」、「送信カプセルに入る」といった指示項目が設定されている。ここで、操作ダイヤル126bを回転操作してフォーカスFを所望の処理である「送信カプセルに入る」上に移動させて操作ダイヤル126bを押圧操作すると、当該画像データが送信すべき画像データの一覧に加えられる。このようにして送信する画像データを選択して実際に送信を行う場合には、フォーカスFをGUIの項目上に戻し、送信開始／終了を選択する。こ

のように送信開始／終了が選択されると、ユーザPC106のCPU120によって選択されている画像データの送信処理が実行される。

【0034】次に、Web確認モードは、インターネット等のネットワークに接続してブラウジングを行うモードであり、Web確認モードが選択されると、図7(a)に示すような画面がCPU120の制御により表示部124に表示される。同図に示すように、Web確認モードでは、Webブラウザを表示するブラウザ表示画面44と、ブラウザ表示画面44にリソースを表示させるために入力等されたURLを表示するURL表示欄45と、GUIと、ステータスウィンドウSWとが表示される。ここで、Web確認モードが選択されると、CPU120によりハードディスク123に格納されているブラウザソフトウェア(例えば、Internet Explorer(マイクロソフト社)やNetscape Navigator(ネットスケープ社の登録商標))が実行され、ブラウザ表示画面44には、上記ブラウザソフトウェアによる表示画面が表示される。

【0035】図7(b)に示すように、Web確認モードにおけるGUIには、ブラウジングの際に指示する項目を選択するための「browsing」が表示されており、「browsing」には、所定のWebページにジャンプすることを指示する項目(「ジャンプ」)や、ブラウザを操作する項目(例えば、「次へ」や「戻る」など)が表示されている。また、このモードにおける「operation」には、インターネットに接続／切断することを指示する項目(「ネット接続／切断」)、ブラウザ表示画面44へのフォーカスFの移動を指示する項目(「フォーカス移動」)等があり、操作ダイヤル126bを回転操作することにより所望の項目にフォーカスFを移動させた後、操作ダイヤル126bを押圧操作することで所望の項目を選択することができるようになっている。

【0036】この「Web確認」では、URLを入力してブラウジングを行うといった通常の一般的なブラウジング処理を行うことができる。

【0037】次に、ライブ予約モードは、インターネット103を介してサーバ使用予約管理センタ101(図1参照)に接続し、上述したパーソナルキャスティングサービスを利用して個人放送を行うための時間帯等を予約するためのモードであり、ライブ予約モードが選択されると、図8(a)に示すような画面がCPU120の制御により表示部124に表示される。同図に示すように、ライブ予約モードでは、上述したWeb確認モードと同様に、ブラウザ表示画面44、URL表示欄45、GUIおよびステータスウィンドウSWに加え、予約一覧表示エリア46が表示される。

【0038】図8(b)に示すように、ライブ予約モードにおけるGUIの「operation」には、インターネットに接続／切断することを指示する項目(「ネット接続

／切断」)、ブラウザ表示画面44へのフォーカスFの移動を指示する項目(「フォーカス移動」)等がある。また、このモードにおけるGUIには、上述したWeb確認モードと同様に「browsing」が表示され、「browsing」には、ライブ予約を行うためのWebページにジャンプすることを指示する項目(「予約ジャンプ」)、ブラウザを操作する項目(例えば、「次へ」や「戻る」など)等がある。ユーザは操作ダイヤル126bを回転操作することにより所望の項目にフォーカスFを移動させた後、操作ダイヤル126bを押圧操作することで所望の項目を選択することができるようになっている。なお、ライブ予約を行うためのWebページとは、サーバ使用予約管理センタ101内の後述するライブキャスティングサーバがそのハードディスク内に格納しているWebページである。

【0039】ここで、ユーザがパーソナルキャスティングサービスを利用してライブ配信の予約を行う場合には、配信予約を行うためのWebページにジャンプすることを指示する項目を選択決定する。これによりCPU120はライブ予約を行うために上記ライブキャスティングサーバにインターネット103を介してアクセスし、当該ライブキャスティングサーバに予約要求情報を送信したり、ライブキャスティングサーバからの予約設定情報をダウンロードするといった予約に関する情報の授受を行うことができるようになっている。

【0040】予約一覧表示エリア46には、ユーザが上記サーバ使用予約管理センタ101に対して予約した内容が一覧表示されており、各予約毎に予約時間帯等の概要情報が表示されている。ユーザは、操作ダイヤル126bを回転操作することにより、予約一覧表示エリア46上にフォーカスFを移動させた後、操作ダイヤル126bを押圧操作することにより、予約一覧表示エリア46上の所望の予約概要情報が表示された項目を選択すると、CPU120は、その予約を確認するために上記サーバ使用予約管理センタ101のライブキャスティングサーバの予約確認を行うためのWebページにジャンプするような制御を行っているが、ユーザPC106とサーバ使用予約管理センタ101との間の予約に関する処理についての詳細は後述する。

【0041】次に、ライブ配信モードは、電話網104およびサーバ接続専用ネットワーク108を介してストリーミングサーバ102(図1参照)に接続し、デジタルビデオカメラ129により撮影した動画像データ等のコンテンツデータをストリーミングサーバ102にリアルタイムで送信するモードであり、このモードにおいて送信したコンテンツデータがストリーミングサーバ102によって、要求のあったクライアントPC107にストリーム配信される。これにより、ユーザは個人放送の配信をリアルタイムで行うことができる。

【0042】このようなライブ配信モードが選択される

と、図9(a)に示すような画面がCPU120の制御により表示部124に表示される。同図に示すように、ライブ予約モードでは、撮影画像に付与するエフェクトを選択するためのエフェクト表示欄48と、ストリーミングサーバ102に送信する画像を表示する、つまりディジタルビデオカメラ129の撮影画像に所定のエフェクト等が付与された画像を表示するプレビュー画面47と、GUIと、ステータスウィンドウSWとが表示される。

【0043】ライブ配信モードにおけるステータスウィンドウSWには、配信中であることを示すオンエア情報、配信開始からの経過時間を示す配信経過時間情報、サービス提供者側の時刻情報、ユーザPC106側の時刻情報、予約開始時間や予約終了時間を示す予約時間帯情報、画像サイズ情報、配信データの送信速度(ビットレート)を示すビットレート情報、配信画像データのタイトル名情報、接続しているストリーミングサーバ102およびそのチャンネルを示す接続先情報、ストリーミングサーバ102によりストリーム配信されるコンテンツデータを受信しているクライアントの数を示す視聴者数情報等が表示される。

【0044】図9(b)に示すように、ライブ配信モードにおけるGUIの「operation」には、インターネットに接続／切断することを指示する項目(「ネット接続／切断」)、ライブ配信の開始／終了を指示する項目(「配信開始／終了」)、エフェクト表示欄48に表示するエフェクトを設定するエフェクト設定項目(「エフェクト設定」)、エフェクト表示欄48へのフォーカスFの移動を指示する項目(「フォーカス移動」)等があり、操作ダイヤル126bを回転操作することにより所望の項目にフォーカスFを移動させた後、操作ダイヤル126bを押圧操作することで所望の項目を選択することができるようになっている。

【0045】ここで、ライブ配信の開始／終了を指示する項目を選択決定すると、CPU120は、上述したライブ予約モードにおいてライブキャスティングサーバから供給された予約設定情報に従い、電話網104およびサーバ接続専用ネットワーク108を介してストリーミングサーバ102に接続する。そして、ストリーミングサーバ102との接続が確立されると、CPU120は、上記予約設定情報に設定された内容(例えば、データ伝送速度等)従い、ディジタルビデオカメラ129により撮影された動画像データをリアルタイムでストリーミングサーバ102に送信する。なお、ストリーミングサーバ102との間の通信接続処理や通信接続後の動画像データ送信処理等についての詳細は後述する。

【0046】図10に示すように、ライブ配信モードにおけるエフェクト表示欄48には、操作ボタン126c中のAボタンおよびBボタン(ボタン上面等に「A」、「B」を表記しておく)毎にエフェクト名が上下方向に

並んで表示されている。ここで、最も上段に表示されるエフェクト名が現在選択されているエフェクト名である。図示の例では、Aボタンには、選択候補として上から順番に「ハート絵柄表示」、「なし」、「拍手音」……といったエフェクト名が表示されている。これらは操作ダイヤル126bの回転操作により相対的に移動するフォーカスFに囲まれたエフェクト名に対応するエフェクト名、つまり現在選択されて最上段に表示されているエフェクト名に対応するエフェクトを付与することを指示するためのものであり、ユーザが操作ボタン126c中のAボタンを押下することにより、フォーカスFに囲まれて選択されたエフェクト名に対応するエフェクトがディジタルビデオカメラ129の撮影画像に付与される。例えば、図示の状態で、Aボタンが押下操作された場合には、ディジタルビデオカメラ129に撮影された動画像データに「拍手音」に対応するエフェクトである拍手音を加える処理が実行される。なお、上記のフォーカスFが相対的に移動するとは、このモードにおいては、回転ダイヤル126bの操作によりフォーカスFが移動するのではなく、エフェクト名の表示列がスクロールするようになっており、結果として表示列に表示された「エフェクト名」上を移動することを意味している。

【0047】Bボタンには、最上段には、現在フォーカスFに囲まれている、つまり選択されているエフェクト名「タイトルインポーズ」が表示され、その下方に選択候補として上から順番に「BGM1」、「白黒画像」、「タイトルインポーズ」……といったエフェクト名が表示されている。これらはフォーカスFに囲まれたエフェクト名に対応するエフェクトを付与することを指示するためのものであり、ユーザが操作ボタン126c中のBボタンを押下することにより、フォーカスFに囲まれたエフェクト名に対応するエフェクトがディジタルビデオカメラ129の撮影画像に付与される。例えば、図示の状態で、Bボタンが押下操作された場合には、ディジタルビデオカメラ129に撮影された動画像データに対し、「タイトルインポーズ」に対応するエフェクトであるタイトル名のスーパーインポーズ処理が実行される。ここで、Aボタンに対応するエフェクト処理は、一時的に付与される処理である「拍手音」の付加等であるのに対し、Bボタンに対応するエフェクト処理は、継続的に付与される処理である。したがって、ユーザPC106の操作ボタン126c中のBボタンとしてはトグルボタンを採用し、一旦押下操作された後、次に押下操作されるまでの間、「白黒画像」にする等のエフェクト付与処理を継続するようになっている。

【0048】また、Bボタンに対応するエフェクト名を表示しているさらに画面右側には、予めユーザに設定されたプリセットのエフェクト名が表示されている。ここに表示されるエフェクトは、後述するエフェクト設定においてプリセットするエフェクトを変更しない限り、ボ

タン操作とは無関係にこの欄に表示されたエフェクトが継続して付与されるようになっている。図示の例では、「日時」が設定されており、この場合、配信する動画像データ中に常に日時表示がスーパーインポーズされるようになっている。

【0049】上記のようなエフェクト処理は、ライブ配信を行うこと、つまりデジタルビデオカメラ129により撮影した動画像データをリアルタイムで送信することを考慮したものである。すなわち、ライブ配信を行う場合には、ユーザPC106では、撮影した画像をリアルタイムで送信するため、撮影した画像にエフェクト等を付与する際の操作は簡単であることが要求され、上述したようにAボタンまたはBボタンの1回の押下操作で処理を実行できるようになっているのである。しかしながら、エフェクトを付与する処理をボタン1回の押下操作で指示することができるものの、AボタンまたはBボタンを押下操作した場合には、エフェクト表示欄48上のフォーカスFに囲まれたエフェクト名に対応するエフェクトの処理が実行される。したがって、エフェクト表示欄48上に表示されるエフェクト名やその表示順序がユーザの意図に合致しないものであると、所望のエフェクトを付与するためのフォーカスFの相対的な移動量が多くなってしまい、操作ダイヤル126bの回転操作等に時間を要し、ユーザは所望のエフェクトを所望のタイミングで付与することができなくなることもある。

【0050】そこで、ライブ配信モードでは、上述したGUI(図9(b)参照)において、「エフェクト設定」を選択することにより、予め用意されている多数のエフェクトの中から、上記エフェクト表示欄48にどのエフェクトをどのような順序で表示させるかを設定することができるようになっている。ここで、図11は、上記GUIの「エフェクト設定」(図9(b)参照)が選択された場合に表示部124に表示される画面を示す。同図(a)、(b)、(c)に示すように、Aボタン、Bボタンおよびプリセットといった3つの設定用画面が用意されている。図11(a)に示すAボタンに対応するエフェクト設定を行う画面には、予め用意されている一時的に付与する、つまりAボタンに対応する多数のエフェクト名を表示するAボタン対応エフェクトリスト欄50aが画面左側に表示され、その右側には、上述したエフェクト表示欄48に表示させるべき登録リスト欄52が表示されている。登録リスト欄52には、Aボタン用登録リスト欄52a、Bボタン用登録リスト欄52bおよびプリセット登録欄52cが表示されており、Aボタン設定用の画面では、Bボタン用登録リスト欄52bおよびプリセット登録欄52cの表示色がAボタン用登録リスト欄52aの表示色と異なっており、これにより現在設定可能な登録欄を容易にユーザが認識することができるようになっている。Aボタン対応エフェクトリスト欄50aには、予め用意されている実行可能な多数のエ

フェクト処理のエフェクト名が上下方向にスクロール表示されるようになっている。

【0051】このような表示画面において、Aボタン対応エフェクトリスト欄50aに表示されているエフェクトの中から、エフェクト表示欄48に表示させるべきエフェクトを選択し、Aボタン用登録リスト欄52aに選択したエフェクトをドラッグする。このようにしてユーザは、Aボタンに対応する所望のエフェクトが所望の順序でエフェクト表示欄48に表示されるように設定しておくことができる。

【0052】Bボタンに対応するエフェクトを設定する場合には、図11(b)に示す画面が表示される。この画面の右側には予め用意されている継続的に付与する、つまりBボタンに対応する多数のエフェクト名を表示するBボタン対応エフェクトリスト50bが表示されている。これらのBボタン対応エフェクトリスト50bには、予め用意されている実行可能な多数のエフェクト処理のエフェクト名が上下方向にスクロール表示されるようになっている。

【0053】このような表示画面において、Bボタン対応エフェクトリスト欄50bに表示されているエフェクトの中から、エフェクト表示欄48に表示させるべきエフェクトを選択し、Bボタン用登録リスト欄52bにドラッグする。このようにしてユーザは、Bボタンに対応する所望のエフェクトが所望の順序でエフェクト表示欄48に表示されるように設定しておくことができる。

【0054】プリセットのエフェクトを設定する場合には、図11(c)に示す画面が表示される。この画面の右側には、予め用意されている継続的に付与する多数のエフェクト名を表示するプリセットエフェクトリスト50cが表示されている。これらのプリセットエフェクトリスト50cには、予め用意されている実行可能な多数のエフェクト処理のエフェクト名が上下方向にスクロール表示されるようになっている。

【0055】このような表示画面において、プリセットエフェクトリスト欄50cに表示されているエフェクトの中から、エフェクト表示欄48に表示させるべきエフェクトを選択し、プリセット用登録欄52cにドラッグする。このようにしてユーザは、プリセットのエフェクトを設定しておくことができる。

【0056】一般的に、ライブ配信を行う場合には、付与すべきエフェクトの種類やそのエフェクトを付与するタイミングや順序等は、ユーザの構想としてできあがっているものである。したがって、このようなユーザの構想に基づいた付与するエフェクトの種類や付与順序を考慮した設定を予め行っておけば、ライブ配信において、簡易な操作でユーザの構想をより忠実に再現したエフェクト処理を行うことができる。

【0057】ユーザPC106は、上記のような撮影モード、アップロードモード、Web確認モード、ライブ

予約モード、ライブ配信モードといった5つの機能を備えたアプリケーションプログラムをハードディスク123に格納し、上記のような処理機能を行うことができるが、他にもライブ配信予約時に後述する予約設定情報ファイルを自動取り込みする処理を実行するためのプログラムや、ライブ配信時にストリーミングサーバ102への通信接続処理を実行するためのプログラムを格納しているが、これらのプログラムの実行による機能についての詳細は後述する。

【0058】A-3. サーバ使用予約管理装置

上述したようにユーザPC106が放送者としてライブ配信を行う場合、コンテンツ供給システム100により提供されるパーソナルキャスティングサービスでは、ライブ配信を行う時間帯にストリーミングサーバ102の使用する予約を行う必要がある。次に、このようなストリーミングサーバ102の使用予約を管理するサービス提供者側のサーバ使用予約管理センタ101について図12を参照しながら説明する。

【0059】同図に示すように、サーバ使用予約管理センタ101は、互いにLAN (Local Area Network) に接続されるライブキャスティングサーバ150、予約データベース151、ユーザデータベース152、NTP (Network Time Protocol) サーバ153、ネットワークインターフェース154およびデータベースサーバ155を備えている。ここで、サーバ使用予約管理センタ101の上記各構成要素は、ネットワークインターフェース154を介してインターネット103に接続されるユーザPC106やクライアントPC107、および専用線109 (図1参照) に接続されるストリーミングサーバ102との間で各種データの授受を行う。

【0060】ライブキャスティングサーバ150は、パーソナルキャスティングサービスにおけるライブ配信の予約処理、課金処理、サービスメンバーの登録処理等の当該サービスの全体を管理するための処理を行うサーバである。ライブキャスティングサーバ150は、ユーザが当該サービスを受ける権利を得るための登録用、ユーザからの予約を受け付ける予約受付用、ユーザが予約確認や変更を行うための予約確認用、およびクライアントPC107にライブ配信されている番組表等を参照させるための番組表参照用等のWebページをハードディスク内に格納しており、ユーザPC106やクライアントPC107からの要求があった場合には、この要求に応じたWebページをユーザPC106やクライアントPC107に閲覧させ得るようになされている。以下、ライブキャスティングサーバ150に用意されているWebページについて、当該Webページの閲覧を要求したPC側のブラウザ画面に表示される表示画面を参照しながら説明する。

【0061】ここで、図13は、ユーザPC106やクライアントPC107等のインターネット103に接続

できるPCを用い、当該PCのユーザがライブキャスティングサーバ150のWebページのトップページ (ホームページ) を識別するためのURLを入力等して閲覧要求を行った場合に、要求したPC側に表示されるWebページ表示画面を示す。なお、ライブキャスティングサーバ150のWebページのトップページの閲覧要求をする場合、上記のようにURLを入力する方法以外にも、他のホームページ上のリンクボタンのクリック操作により当該ページにジャンプするといった方法もある。

【0062】図13に示すように、このホームページには、ログインするためにユーザーIDおよびパスワードを入力する欄に加え、「メンバー登録」、「パーソナルキャスティングTVとは?」、「本日のライブ」、「番組ガイド」、「マイチャンネル」、「ライブ配信予約」、「プログラムピックアップ」、「Image Station」といったリンクボタンが表示されており、これらがクリックされると、各リンクボタンにハイバーリンクされたWebページがPC側に送信されて表示されるようになっている。

【0063】まず、「メンバー登録」がクリックされると、当該パーソナルキャスティングサービスを受けることができるメンバーを登録するためのWebページがPC側の表示画面に表示されることになるが、これについての詳細は後述する。

【0064】次に、「パーソナルキャスティングTVとは?」がクリックされた場合には、図14に示すような画面がPC側の表示画面に表示されるようになっている。同図に示すように、このWebページ画面には、当該パーソナルキャスティングサービスのメンバー登録を促す記載や、上記「メンバー登録」のWebページにジャンプさせるリンクボタン「登録ページへ」が表示されている。また、この表示画面には、パーソナルキャスティングサービスの概要説明や処理手順等の説明が記述されている。

【0065】次に、「本日のライブ」がクリックされた場合には、図15に示すような画面がPC側の表示画面に表示される。同図に示すように、このWebページ画面には、本日配信されるライブプログラムが表示されており、サービス提供者側の現在時刻 (この時間に基づいて予約が履行される) を上部に表示すると共に、その下方側に本日配信されるスペシャルプログラムおよびプライベートプログラムの配信時間、タイトル、配信者、概要等の項目の情報一覧表示されている (図示の例では、表示する項目名を記述しているが、実際には上記項目の内容 (配信者名や、タイトル名等) が表示される)。ここで、スペシャルプログラムとは、企業などが提供するコンテンツであり、プライベートプログラムはユーザPC106のように個人ユーザにより提供されるコンテンツを意味する。また、配信時間の代わりに「オンデマンド」と記述されているプログラムは、ライブ配信では

なく、予め配信データをライブキャスティングサーバ150側で記憶しておき、クライアントPC107等から要求に応じて配信するオンディマンド配信用のプログラムである。また、プライベートプログラムにおける「定員」は、当該プログラムのコンテンツの配信を受けることができるクライアント数の定員を示す情報であり、「OPEN」「CLOSE」は現時点で、上記定員等の制限を考慮した上でクライアント下の要求に応じて配信することができるか否かを示す情報である（「OPEN」は配信可能、「CLOSE」は配信不能）。

【0066】ここで、上述したプログラムの一覧中の「タイトル」はリンクボタンとなっており、これがクリックされると、図16に示すように、クリックされた「タイトル」のライブプログラムの詳細情報が表示される。この画面において当該プログラムの配信時間中に、正当なパスワード入力を行うと共に、「再生」ボタン175をクリックすれば、当該ライブプログラムの配信要求がインターネット103を介してストリーミングサーバ102に送信される。これにより、配信要求を行ったクライアントPC107は、ストリーミングサーバ102による当該ライブプログラムコンテンツのストリーム配信を受信し、これをリアルタイムで再生することができるようになっている。なお、ストリーミングサーバ102によってストリーミング配信されたコンテンツをリアルタイム再生するためには、当該リアルタイム再生処理を行うための再生ソフトウェア（例えば、「Real player」（リアルネットワークス社）、「Windows Media Player」（マイクロソフト社）等）が必要となる。したがって、配信要求を行うPCが上記再生ソフトウェアを格納していない場合には、「再生ソフト」ボタン176をクリックする。これにより、上記再生ソフトウェアがPCにダウンロードされ、当該PCにおいてストリーミングサーバ102によってストリーム配信されたコンテンツをリアルタイムで再生して視ることができる。

【0067】次に、「番組ガイド」がクリックされた場合には、図17に示すような画面がPCの表示画面に表示される。同図に示すように、このWebページ画面は、現在日を含む月間カレンダーが表示されており、当該カレンダーの白抜き表示された日付に配信されるプログラムの一覧が表示されている。ここで、表示されるプログラムの一覧は、上述した「本日のライブ」と同様である（図16参照）。この表示画面においては、上記月間カレンダー上の所望の日付をクリックすれば、当該日付のプログラム一覧が表示されるようになっている。なお、上記「本日のライブ」や「番組ガイド」において表示される画面は、図16および図17に示すようなものに限らず、縦軸に時刻、横軸にチャンネルといったマトリクス状のプログラム表示欄を設け、当該マトリクス内にタイトル名、内容、配信者名等を表示するといった新聞のテレビ欄のような表示形式であってもよく、その表

示形式は任意である。

【0068】次に、「マイチャンネル」は、ライブ配信の発信者となることができる権利を有するユーザ（後述するプレミアムメンバー登録されているユーザ）毎に用意されるWebページであり、「マイチャンネル」がクリックされると、そのユーザの現時点におけるライブ配信の予約内容を確認するWebページ等が表示されるようになっている。また、「ライブ配信予約」がクリックされると、ライブ配信の予約を行うためのWebページが表示されるようになっていいが、これらについての詳細は後述する。なお、メンバー登録を行っていないユーザについては、ユーザIDやパスワードがないため、上記のユーザIDおよびパスワードを入力するといったログイン処理を行うことができないようになっている。このようなログイン処理を行っていないユーザのPCにおいて「マイチャンネル」や「ライブ配信予約」がクリックされた場合には、それぞれ対応するWebページにジャンプするのではなく、「パーソナルキャスティングTVとは？」にジャンプして、当該ユーザにメンバー登録を促すようになっている。

【0069】次に、「プログラムピックアップ」は、サービス提供者側が推奨するプログラム等を紹介するWebページであり、これがクリックされると、サービス提供者が推奨するプログラムの詳細情報（図16参照）が表示されるようになっている。

【0070】ライブキャスティングサーバ150は、そのハードディスク内に上述したようなWebページを格納している。

【0071】図12に戻り、予約データベース151は、ライブ配信における予約状況や予約によって発生する課金に関する情報を記憶するものであり、図18に示すように、1つの予約毎に予約時間帯、使用するチャンネル、使用帯域（bps (bit per second)）等を含む予約内容情報と、ユーザを識別するためのユーザIDと、その時点で予約が成立して課金が可能であるか否かを示す課金フラグ情報と、当該予約履行時の認証に用いられる予約IDとを対応づけて記憶している。これらの各情報は、後述するライブキャスティングサーバ150による予約処理等の際に書き込まれ、後述するデータベースサーバ155による認証処理において記憶された各情報が参照されることになる。

【0072】ユーザデータベース152は、パーソナルキャスティングサービスを受ける権利を有する登録ユーザに関する情報を記憶するものであり、当該登録ユーザ毎に、氏名（名称）、ユーザID、パスワード、電子メールアドレス、住所、電話番号（携帯電話やファクシミリ番号）、および課金するためのクレジットカード番号やクレジットカードの有効期限等の情報が記憶されている。これらの各情報は、後述するライブキャスティングサーバ150によるメンバー登録処理の際に書き込ま

れ、後述するライブキャスティングサーバ150による予約処理の際に参照されることになる。

【0073】NTPサーバ153は、このサーバ使用予約管理センタ101やストリーミングサーバ102などのサービス提供者側の装置における時刻情報を一括して管理するものであり、ライブキャスティングサーバ150やストリーミングサーバ102は、NTPサーバ153から時刻情報を取得し、取得した時刻情報に基づいてライブ配信の開始時刻や終了時刻を管理している。これは、ライブ配信といった正確な時間制御の下で動作しなくてはならないサービスを提供することを考慮したものであり、サービス提供者側の基準となる時刻を1つに統一することにより、サービス提供者側の装置であるサーバ使用予約管理センタ101とストリーミングサーバ102とが互いにずれた時刻を基準として動作するといったことを抑制している。また、ユーザー側の装置であるユーザーPC106の時刻と、サービス提供者側の時刻とがずれていることが考えられ、この時刻ずれをユーザーPC106のユーザーが認識していないと、サービス提供者側が規定するライブ配信開始時刻や終了時刻と、ユーザー側の認識しているライブ配信開始時刻や終了時刻がずれてしまうことがある。したがって、ライブキャスティングサーバ150による予約処理においては、この時刻のずれをユーザーPC106に通知しているが、この際の時刻ずれは、NTPサーバ153からライブキャスティングサーバ150が取得した時刻情報に基づいて求められる。

【0074】データベースサーバ155は、ユーザーPC106もしくは他の不正な者のPCからストリーミングサーバ102を利用するための接続要求がサーバ接続専用ネットワーク108のアクセスポートに対して行われた場合、サーバ接続専用ネットワーク108の図示せぬアクセスサーバからの要求を受けて、アクセスしてきたPCがこの時間帯において正当な予約を行ったPC（すなわち、ユーザーPC106）であるか否かの認証処理を行うサーバである。また、上記認証処理において、正当なPCであると認証された場合には、ストリーミングサーバ102とユーザーPC106との通信接続が確立され、ユーザーPC106はストリーミングサーバ102に対してストリーム配信処理の実行を要求することになる。この際、ストリーミングサーバ102は、配信要求を行ってきたPCが正当な予約を有するPCであるか否かを認証するために、データベースサーバ155に対して認証処理を要求する。データベースサーバ155は、このようなストリーミングサーバ102から要求があった場合にも、正当な予約を有するPCであるか否かといった認証処理を行う。これらの認証処理は、予約データベース151を参照することにより行われることになるが、上記2つの認証処理の詳細については後述する。

【0075】A-4. ストリーミングサーバ

次に、図1に示すストリーミングサーバ102は、上述したように正当な予約を有するユーザーPC106からサーバ接続専用ネットワーク108等を介して送信される動画像データ等のコンテンツデータを受信し、このコンテンツデータをインターネット103を介して配信要求を行ったクライアントPC107に対してストリーム配信するサーバである。

【0076】ストリーミングサーバ102は、複数のコンテンツを同時にストリーム配信することが可能となっている。つまり、同じ時間帯に複数の配信者がストリーミングサーバ102を使用してコンテンツのライブ配信を行うことができるよう複数のチャンネル（系統）を有する構成となっている。このストリーミングサーバ102では、各チャンネル毎に配信できる人数、伝送帯域（64kbpsや28.8kbps等）、利用料金等が予め設定されており、ストリーミングサーバ102を使用してコンテンツ配信を行うユーザーは、上記設定を考慮して予約すべきチャンネルを選択することになる。

【0077】また、ストリーミングサーバ102は、上述したようにユーザーPC106等のライブ配信者から送信されたコンテンツのストリーム配信処理を行うとともに、予約の空いている時間帯やプログラムとプログラムの間の時間等に配信するコマーシャルコンテンツ等を格納しており、上記のような空いている時間帯には、コマーシャルコンテンツの配信処理を行うようになっている。

【0078】また、ストリーミングサーバ102は、サーバ使用予約管理センタ101によりユーザーPC106に対して許可された予約内容に応じて、配信時間帯の管理、配信するクライアントPC107数の制限等を制御することになるが、これらの処理については後述する。

【0079】A-5. ライブ配信を行うためのストリーミングサーバとユーザーPCとの通信経路

図1に示すように、ストリーミングサーバ102は、サーバ接続専用ネットワーク108に接続されており、上述したようにライブ配信を行う場合には、ユーザーPC106が電話網104およびサーバ接続専用ネットワーク108を介してストリーミングサーバ102に接続することになる。サーバ接続専用ネットワーク108は、当該コンテンツ供給システム100により提供されるパーソナルキャスティングサービスにおいてライブ配信を行うために設けられた専用のネットワークである。

【0080】ここで、ストリーミングサーバ102とユーザーPC106との通信接続は、インターネット103を介して行うことも可能であるが、このコンテンツ供給システム100では、ユーザーPC106からストリーミングサーバ102へのコンテンツデータの伝送路および伝送帯域を確保するために、ストリーミングサーバ102に接続するためのサーバ接続専用ネットワーク108を設けている。このように専用のネットワークを用いる

のは、次のような理由によるものである。ユーザPC106がインターネット103に接続するためには、ユーザPC106が契約しているインターネットサービスプロバイダ（以下、ISPという）に電話網104を介して接続する必要がある。このようなISPは、このパーソナルキャスティングサービスの登録メンバーだけではなく、多数のインターネット利用者のPCからの接続をも受けすることになる。したがって、多数のインターネット利用者が当該ISPに接続してインターネット103に接続している場合には、ユーザPC106がライブ配信を行うために必要な伝送帯域が確保できなくなってしまう。また、ユーザPC106が回線がビジーである等の理由によってISPに接続できないといったこともあり得る。インターネット103を使用するデータ伝送では、上記のような接続環境が悪化するといった問題が起こりうるが、ライブ配信を行うには、所望の時間に確実にストリーミングサーバ102との間で所望のビットレートの通信路を確保しなくてはならず、上記問題が生じると正常なサービスを提供できなくなってしまう。したがって、コンテンツ供給システム100では、インターネット103を用いずに、サーバ接続専用ネットワーク108を用意することにより上記のような問題が生じることを防止しているのである。

【0081】ここで、サーバ接続専用ネットワーク108には、ストリーミングサーバ102に接続する多数の回線が用意されている。サーバ接続専用ネットワーク108に用意される回線数は、同じ時間帯にストリーミングサーバ102に接続が許可される最大のユーザ数よりも多くなっている（例えば、接続許可最大ユーザ数が10人の場合、回線数は20本）。これは次のような理由による。上述したようにサーバ接続専用ネットワーク108のアクセスサーバは、接続を要求してきたPCに対してデータベースサーバ155（図12参照）に認証処理を要求し、接続要求してきたPCが正当な予約を有するものであるか否かを認証している。この認証処理において正当な予約を有しないと判断した場合には、接続要求してきたPCからの呼を直ちに切断することとしている。したがって、不正者のPCがサーバ接続専用ネットワーク108の回線を使用することはできないものの、上記のような認証処理を行っている間、1つの回線はビジーとなってしまう。このため、接続を許可する最大ユーザ数と用意する回線数を同じであると、不正者がパーソナルキャスティングサービスの妨害等を目的として、サーバ接続専用ネットワーク108のアクセスポートに対して同時に多数発呼した場合には、正当な予約を有するユーザのPCが接続できなくなってしまう。したがって、上記のように最大ユーザ数よりも多い回線数を用意しておくことにより、不正者の妨害によりサービスが妨げられることを低減しているのである。

【0082】また、このパーソナルキャスティングサー

ビスでは、予約に基づいた配信開始時間よりも所定時間前にストリーミングサーバ102への接続を許可し、これにより配信開始時間前に認証等の接続処理を済ませ、予約配信開始時間になった時点でライブ配信を行えるようしている。したがって、異なるユーザの予約時間が連続している場合には次のような問題が起りうる。すなわち、先の時間を予約した配信中のユーザの接続と、後の時間を予約したユーザによる配信開始所定時間前を経過した後の接続とが重なってしまい、配信可能な最大ユーザ数のみの回線数では、対処しきれなくなってしまう。したがって、上記のように最大ユーザ数の2倍の回線数を用意しておくことにより、上記のような先の時間帯の予約ユーザと、後の時間帯の予約ユーザとの接続が重なった場合にも対処できるようにしている。

【0083】また、ストリーミングサーバ102に接続するためのサーバ接続専用ネットワーク108は、1つの電気通信事業者（Carrier）のネットワーク（例えば、公衆電話網）に対するアクセスポートに限らず、複数の電気通信事業者の各々ネットワーク（例えば、ISDN（Integrated Services Digital Network）や移動電話網）から接続可能なアクセスポートを用意するようにしてもよい。この場合、ユーザPC106側では、接続する電気通信事業者を選択し、当該電気通信事業者のネットワークに対応したアクセスポートに発呼し、サーバ接続専用ネットワーク108を介してストリーミングサーバ102との間の通信接続を確立することになる。

【0084】A-6. クライアントPC

上述したようにユーザPC106がストリーミングサーバ102にリアルタイムで送信したコンテンツデータは、ストリーミングサーバ102に対して配信要求を行ったクライアントPC107に対してインターネット103を介してストリーム配信されることになる。クライアントPC107は、上述したライブキャスティングサーバ150のWebページ（図16参照）から配信要求を行うこともできるし、ストリーミングサーバ102のURLを入力してストリーミングサーバ102に直接配信要求を行うこともできるようになっている。本実施形態では、このようにストリーミングサーバ102に配信要求を行ってストリーミングサーバ102からのストリーミング配信を受けるPCをいうものとし、これらのクライアントPC107は、ストリーミング配信されたコンテンツデータをリアルタイム再生するためのアプリケーションプログラム（例えば、「Real player」（リアルネットワークス社）、「Windows Media Player」（マイクロソフト社）等）を格納しており、配信時には当該アプリケーションプログラムを実行して配信されたコンテンツデータをリアルタイムで再生して視ることができるようになっている。

【0085】B. コンテンツ供給システムの動作

次に、ライブキャスティングサービスを実現するための

れ、後述するライブキャスティングサーバ150による予約処理の際に参照されることになる。

【0073】NTPサーバ153は、このサーバ使用予約管理センタ101やストリーミングサーバ102などのサービス提供者側の装置における時刻情報を一括して管理するものであり、ライブキャスティングサーバ150やストリーミングサーバ102は、NTPサーバ153から時刻情報を取得し、取得した時刻情報に基づいてライブ配信の開始時刻や終了時刻を管理している。これは、ライブ配信といった正確な時間制御の下で動作しなくてはならないサービスを提供することを考慮したものであり、サービス提供者側の基準となる時刻を1つに統一することにより、サービス提供者側の装置であるサーバ使用予約管理センタ101とストリーミングサーバ102とが互いにずれた時刻を基準として動作するといったことを抑制している。また、ユーザ側の装置であるユーザPC106の時刻と、サービス提供者側の時刻とがずれていることが考えられ、この時刻ずれをユーザPC106のユーザが認識していないと、サービス提供者側が規定するライブ配信開始時刻や終了時刻と、ユーザ側の認識しているライブ配信開始時刻や終了時刻がずれてしまうことがある。したがって、ライブキャスティングサーバ150による予約処理においては、この時刻のずれをユーザPC106に通知しているが、この際の時刻ずれは、NTPサーバ153からライブキャスティングサーバ150が取得した時刻情報に基づいて求められる。

【0074】データベースサーバ155は、ユーザPC106もしくは他の不正な者のPCからストリーミングサーバ102を利用するための接続要求がサーバ接続専用ネットワーク108のアクセスポートに対して行われた場合、サーバ接続専用ネットワーク108の図示せぬアクセスサーバからの要求を受けて、アクセスしてきたPCがこの時間帯において正当な予約を行ったPC（すなわち、ユーザPC106）であるか否かの認証処理を行うサーバである。また、上記認証処理において、正当なPCであると認証された場合には、ストリーミングサーバ102とユーザPC106との通信接続が確立され、ユーザPC106はストリーミングサーバ102に対してストリーム配信処理の実行を要求することになる。この際、ストリーミングサーバ102は、配信要求を行ってきたPCが正当な予約を有するPCであるか否かを認証するために、データベースサーバ155に対して認証処理を要求する。データベースサーバ155は、このようなストリーミングサーバ102から要求があった場合にも、正当な予約を有するPCであるか否かといった認証処理を行う。これらの認証処理は、予約データベース151を参照することにより行われることになるが、上記2つの認証処理の詳細については後述する。

【0075】A-4. ストリーミングサーバ

次に、図1に示すストリーミングサーバ102は、上述したように正当な予約を有するユーザPC106からサーバ接続専用ネットワーク108等を介して送信される動画像データ等のコンテンツデータを受信し、このコンテンツデータをインターネット103を介して配信要求を行ったクライアントPC107に対してストリーム配信するサーバである。

【0076】ストリーミングサーバ102は、複数のコンテンツを同時にストリーム配信することが可能となっている。つまり、同じ時間帯に複数の配信者がストリーミングサーバ102を使用してコンテンツのライブ配信を行うことができるよう複数のチャンネル（系統）を有する構成となっている。このストリーミングサーバ102では、各チャンネル毎に配信できる人数、伝送帯域（64 kbpsや28.8 kbps等）、利用料金等が予め設定されており、ストリーミングサーバ102を使用してコンテンツ配信を行うユーザは、上記設定を考慮して予約すべきチャンネルを選択することになる。

【0077】また、ストリーミングサーバ102は、上述したようにユーザPC106等のライブ配信者から送信されたコンテンツのストリーム配信処理を行うとともに、予約の空いている時間帯やプログラムとプログラムの間の時間等に配信するコマーシャルコンテンツ等を格納しており、上記のような空いている時間帯には、コマーシャルコンテンツの配信処理を行うようになっている。

【0078】また、ストリーミングサーバ102は、サーバ使用予約管理センタ101によりユーザPC106に対して許可された予約内容に応じて、配信時間帯の管理、配信するクライアントPC107数の制限等を制御することになるが、これらの処理については後述する。

【0079】A-5. ライブ配信を行うためのストリーミングサーバとユーザPCとの通信経路

図1に示すように、ストリーミングサーバ102は、サーバ接続専用ネットワーク108に接続されており、上述したようにライブ配信を行う場合には、ユーザPC106が電話網104およびサーバ接続専用ネットワーク108を介してストリーミングサーバ102に接続することになる。サーバ接続専用ネットワーク108は、当該コンテンツ供給システム100により提供されるパーソナルキャスティングサービスにおいてライブ配信を行うために設けられた専用のネットワークである。

【0080】ここで、ストリーミングサーバ102とユーザPC106との通信接続は、インターネット103を介して行うことも可能であるが、このコンテンツ供給システム100では、ユーザPC106からストリーミングサーバ102へのコンテンツデータの伝送路および伝送帯域を確保するために、ストリーミングサーバ102に接続するためのサーバ接続専用ネットワーク108を設けている。このように専用のネットワークを用いる

のは、次のような理由によるものである。ユーザPC106がインターネット103に接続するためには、ユーザPC106が契約しているインターネットサービスプロバイダ（以下、ISPという）に電話網104を介して接続する必要がある。このようなISPは、このパーソナルキャスティングサービスの登録メンバーだけではなく、多数のインターネット利用者のPCからの接続をも受けすることになる。したがって、多数のインターネット利用者が当該ISPに接続してインターネット103に接続している場合には、ユーザPC106がライブ配信を行うために必要な伝送帯域が確保できなくなってしまう。また、ユーザPC106が回線がビジーである等の理由によってISPに接続できないといったこともあり得る。インターネット103を使用するデータ伝送では、上記のような接続環境が悪化するといった問題が起りうるが、ライブ配信を行うには、所望の時間に確実にストリーミングサーバ102との間で所望のビットレートの通信路を確保しなくてはならず、上記問題が生じると正常なサービスを提供できなくなってしまう。したがって、コンテンツ供給システム100では、インターネット103を用いずに、サーバ接続専用ネットワーク108を用意することにより上記のような問題が生じることを防止しているのである。

【0081】ここで、サーバ接続専用ネットワーク108には、ストリーミングサーバ102に接続する多数の回線が用意されている。サーバ接続専用ネットワーク108に用意される回線数は、同じ時間帯にストリーミングサーバ102に接続が許可される最大のユーザ数よりも多くなっている（例えば、接続許可最大ユーザ数が10人の場合、回線数は20本）。これは次のような理由による。上述したようにサーバ接続専用ネットワーク108のアクセスサーバは、接続を要求してきたPCに対してデータベースサーバ155（図12参照）に認証処理を要求し、接続要求してきたPCが正当な予約を有するものであるか否かを認証している。この認証処理において正当な予約を有しないと判断した場合には、接続要求してきたPCからの呼を直ちに切断することとしている。したがって、不正者のPCがサーバ接続専用ネットワーク108の回線を使用することはできないものの、上記のような認証処理を行っている間、1つの回線はビジーとなってしまう。このため、接続を許可する最大ユーザ数と用意する回線数を同じであると、不正者がパーソナルキャスティングサービスの妨害等を目的として、サーバ接続専用ネットワーク108のアクセスポートに対して同時に多数発呼した場合には、正当な予約を有するユーザのPCが接続できなくなってしまう。したがって、上記のように最大ユーザ数よりも多い回線数を用意しておくことにより、不正者の妨害によりサービスが妨げられることを低減しているのである。

【0082】また、このパーソナルキャスティングサー

ビスでは、予約に基づいた配信開始時間よりも所定時間前にストリーミングサーバ102への接続を許可し、これにより配信開始時間前に認証等の接続処理を済ませ、予約配信開始時間になった時点でライブ配信を行えるようしている。したがって、異なるユーザの予約時間が連続している場合には次のような問題が起こりうる。すなわち、先の時間を予約した配信中のユーザの接続と、後の時間を予約したユーザによる配信開始所定時間前を経過した後の接続とが重なってしまい、配信可能な最大ユーザ数のみの回線数では、対処しきれなくなってしまう。したがって、上記のように最大ユーザ数の2倍の回線数を用意しておくことにより、上記のような先の時間帯の予約ユーザと、後の時間帯の予約ユーザとの接続が重なった場合にも対処できるようにしている。

【0083】また、ストリーミングサーバ102に接続するためのサーバ接続専用ネットワーク108は、1つの電気通信事業者（Carrier）のネットワーク（例えば、公衆電話網）に対するアクセスポートに限らず、複数の電気通信事業者の各々ネットワーク（例えば、ISDN（Integrated Services Digital Network）や移動電話網）から接続可能なアクセスポートを用意するようにもよい。この場合、ユーザPC106側では、接続する電気通信事業者を選択し、当該電気通信事業者のネットワークに対応したアクセスポートに発呼し、サーバ接続専用ネットワーク108を介してストリーミングサーバ102との間の通信接続を確立することになる。

【0084】A-6. クライアントPC

上述したようにユーザPC106がストリーミングサーバ102にリアルタイムで送信したコンテンツデータは、ストリーミングサーバ102に対して配信要求を行ったクライアントPC107に対してインターネット103を介してストリーム配信されることになる。クライアントPC107は、上述したライブキャスティングサーバ150のWebページ（図16参照）から配信要求を行うこともできるし、ストリーミングサーバ102のURLを入力してストリーミングサーバ102に直接配信要求を行うこともできるようになっている。本実施形態では、このようにストリーミングサーバ102に配信要求を行ってストリーミングサーバ102からのストリーミング配信を受けるPCをいうものとし、これらのクライアントPC107は、ストリーミング配信されたコンテンツデータをリアルタイム再生するためのアプリケーションプログラム（例えば、「Real player」（リアルネットワークス社）、「Windows Media Player」（マイクロソフト社）等）を格納しており、配信時には当該アプリケーションプログラムを実行して配信されたコンテンツデータをリアルタイムで再生して視ることができるようになっている。

【0085】B. コンテンツ供給システムの動作
次に、ライブキャスティングサービスを実現するための

上記構成のコンテンツ供給システム100の様々な処理動作について説明する。

【0086】B-1. メンバー登録

まず、ユーザPC106のユーザがパーソナルキャスティングサービスを利用してライブ配信を行う場合には、当該サービスにおいてライブ配信を行う権利をもらうために、サーバ使用予約管理センタ101のライブキャスティングサーバ150に対してメンバー登録を行う必要がある。ここで、図19は、このメンバー登録を行う際のユーザPC106およびライブキャスティングサーバ150の処理動作のシーケンスフローチャートを示す。同図に示すように、メンバー登録を行う場合には、ユーザPC106がインターネット103に接続し、ライブキャスティングサーバ150(図12参照)に対してWebページの閲覧要求を行う(ステップSa1)。ここで、ユーザPC106がインターネット103に接続する場合には、まず、ユーザPC106に電源を投入した後、上述したアプリケーションプログラムを起動する。そして、ユーザがWeb確認モードを選択することにより、図7(a)に示す画面を表示部124に表示させる。このWeb確認モードにおいて、ユーザはライブキャスティングサーバ150のWebページを識別するためのURLを入力等して閲覧要求を行う。

【0087】このようにしてユーザPC106がライブキャスティングサーバ150に対してWebページの閲覧要求を行うと、ライブキャスティングサーバ150からインターネット103を介してユーザPC106にWebページが送信される(ステップSa2)。送信されたWebページを受信したユーザPC106は、当該Webページをブラウザ表示画面44に表示させる(ステップSa3)。

【0088】このような閲覧要求およびWebページ送信時には、ユーザPC106およびライブキャスティングサーバ150では次のような操作や処理が行われる。まず、ユーザPC106がライブキャスティングサーバ150のURLを入力して閲覧要求を行うと、ブラウザ表示画面44には、図13に示すライブキャスティングサーバ150が格納しているWebページのトップページが表示される。ここでは、メンバー登録を行うため、ユーザは「メンバー登録」をクリックする。これにより、ユーザPC106のCPU120は、当該クリック操作に従い、インターネット103を介してライブキャスティングサーバ150に対してメンバー登録を行うためのWebページの閲覧要求を行う。そして、ライブキャスティングサーバ150からメンバー登録用Webページが送信され、これを受信したユーザPC106のCPU120は、図20に示すようなメンバー登録用の画面をブラウザ表示画面44に表示させる。

【0089】図20に示すように、メンバー登録用画面には、メンバー登録を行うための入力すべき項目名と、

当該項目を入力するための入力欄とが表示される。ここで、このパーソナルキャスティングサービスでは、上述したようなクライアントPC107の機能、つまりストリーミングサーバ102によりライブ配信されるコンテンツを受信するサービスを受ける一般メンバーと、上記コンテンツ受信するサービスに加え、ライブ配信を行う配信側になってサービスを利用できるプレミアムメンバーといった2種類のメンバー登録が用意されており、メンバー登録用の画面には、一般・プレミアム共通用の入力欄210と、プレミアムメンバー専用の入力欄211が表示される。

【0090】この表示画面において、クライアントPC107のユーザのように一般メンバーのみの登録をするユーザは、入力欄210の各項目を入力することになる。ここで、メンバー登録用入力画面には、入力した内容を無効にするキャンセルボタン212と、入力内容での登録を指示する登録ボタン213とが表示されており、ユーザが登録ボタン213をクリックすると、CPU120により入力欄210に入力した内容が登録用情報としてインターネット103を介してライブキャスティングサーバ150に送信される。

【0091】一方、プレミアムメンバー登録を行う場合には、ユーザはチェックボックスにチェックし、入力欄210および入力欄211の各項目に対する入力をすることになる。そして、ユーザによる各項目の入力が終了して、登録ボタン213がクリックされると、ユーザPC106のCPU120は、上記メンバー登録用入力画面に入力された内容と同じ内容の登録用情報ファイルを作成し、これをインターネット103を介してライブキャスティングサーバ150に送信するとともに(ステップSa4)、当該登録用情報ファイルをユーザPC106内のハードディスク123に書き込んで記憶しておく。

【0092】ライブキャスティングサーバ150は、上記のようにユーザPC106のユーザの入力内容に応じて作成された登録用情報ファイルをインターネット103を介して受信し、受信した登録用情報ファイルの内容をチェックして登録を許可するか否かを判別する(ステップSa5)。ここでの処理内容は次の通りである。まず、ある項目についての情報がない、つまりその項目についてユーザが入力していない場合などには、その旨をユーザPC106側の通知し、再入力を促す。また、ライブキャスティングサーバ150は、インターネット103を介してクレジット会社の与信チェックサーバにアクセスし、登録用情報ファイル中のクレジットカードが有効であるか否かのチェックを行い、当該クレジットカードが有効であった場合にのみ登録を許可する。

【0093】登録を許可する場合には、ライブキャスティングサーバ150は、上記登録用情報ファイルにある各項目の情報をユーザデータベース152に書き込んで

登録処理を行う（ステップSa6）。また、プレミアムメンバーの登録処理では、当該登録ユーザーに対応する「マイチャンネル」のWebページを作成し、ハードディスク内に格納する。

【0094】このような登録処理が終了すると、ライブキャスティングサーバ150は、登録処理が終了したことをインターネット103を介してユーザーPC106に通知し（ステップSa7）、メンバー登録処理が終了する。

【0095】B-2. 配信予約

上述のようなメンバー登録処理が終了すると、ユーザーPC106のユーザーは、パーソナルキャスティングサービスを利用してライブ配信を行う配信側となることがで、き、実際にライブ配信を行うためのライブキャスティングサーバ150に対して配信予約を行うことになる。このパーソナルキャスティングサービスでは、ユーザーが一旦ライブキャスティングサーバ150に対して予約登録を行ってから、予約したライブ配信時間の所定時間前（例えば、6時間前）までにユーザーがリコンファーム（予約の再確認）をライブキャスティングサーバ150に対して行うことにより予約が成立するようになっている。このように予約したユーザーにリコンファームを義務づけることにより、予約の履行確立を向上させ、空予約を低減している。さらに、このパーソナルキャスティングサービスでは、登録されたユーザーが1ヶ月に予約可能な最大コマ数（例えば、1コマを10分）が設定されており、これにより少数のユーザーによって当該サービスが寡占状態となってしまうことを抑止している。

【0096】B-2-1. 予約登録

以下、このような配信予約における予約登録を行う際のユーザーPC106およびライブキャスティングサーバ150の処理動作について、当該処理動作のシーケンスフローチャートを示した図21およびユーザーPC106の表示画面等を参照しながら説明する。

【0097】同図に示すように、配信予約を行う場合、ユーザーはユーザーPC106に電源を投入した後、上述したアプリケーションプログラムを起動する。そして、ユーザーがライブ予約モードを選択することにより、図8

(a) に示す画面を表示部124に表示させる。このライブ予約モードにおいて、ユーザーは操作ダイヤル126b等を操作してGUIの選択項目である「予約ジャンプ」を選択決定する。これによりユーザーPC106のCPU120は、インターネット103への接続処理を行い、ライブキャスティングサーバ150に対して配信予約を行うためのWebページ（図13の「ライブ配信予約」がクリックされた場合のWebページ）の閲覧要求を行う（ステップSb1）。このようにユーザーPC106では、上記アプリケーションプログラムにより実現される機能により「予約ジャンプ」を選択決定することにより、配信予約を行うためのWebページの閲覧要求を

行うことができるが、当該Webページの閲覧要求をURLを入力することにより行うこともできる。具体的には、URLを入力して図13に示すホームページの閲覧要求を行い、ユーザーIDおよびパスワードの入力をつけてログインし、「ライブ配信予約」のリンクボタンをクリックするといった操作で配信予約を行うためのWebページの閲覧要求を行うことができる。

【0098】このようにしてユーザーPC106がライブキャスティングサーバ150に対して配信予約用のWebページの閲覧要求を行うと、ライブキャスティングサーバ150からインターネット103を介してユーザーPC106にWebページが送信される（ステップSb2）。送信されたWebページを受信したユーザーPC106は、当該Webページをブラウザ表示画面44に表示させる（ステップSb3）。

【0099】ここで、図22はブラウザ表示画面44に表示される配信予約用のWebページを示す。同図に示すように、この表示画面には、月間カレンダー欄220と、当該カレンダーに白抜き表示された日付の予約状況を示す予約状況表示欄221と、ユーザーが予約を行うための入力すべき項目および入力欄が表示される予約用入力欄222と、予約の申請を指示する予約ボタン223と、予約用入力欄222の入力内容を無効にするキャンセルボタン224とが表示される。

【0100】この表示画面において、ユーザーは月間カレンダー欄220中の予約を希望する日をクリックする。これにより、ユーザーPC106のCPU120は、クリックされた日付を白抜き表示させるとともに、当該日付の予約状況を表示するためのデータをインターネット103を介してライブキャスティングサーバ150に要求する。この要求を受けたライブキャスティングサーバ150は、現時点でのその日付の予約状況を表示するためのデータを予約データベース151の登録内容を参照することにより作成し、要求された日付の予約状況を表示するためのデータをインターネット103を介してユーザーPC106に送信する。ユーザーPC106のCPU120はこのデータに基づいて予約状況表示欄221の表示を行う。

【0101】図示のように予約状況表示欄221には、各チャンネル毎に、配信可能な定員数、使用する伝送帯域、使用料金、時刻毎の予約状況（「空」または「済」）が表示されており、ユーザーはこの予約状況表示欄221を参照しながら、チャネルや時間帯等を決定して予約用入力欄222の各項目の入力をを行う。ここで、上記配信可能な定員数、伝送帯域、および使用料金は、各チャンネル毎に予め設定されているものであり、コンテンツ配信者であるユーザーPC106のユーザーは、予約状況表示欄221に表示された各チャンネル毎の予め設定された情報を参照することにより、希望に沿った使用料金や定員数等に合致したチャンネルを選択することが

できる。

【0102】ここで、予約用入力欄222において入力すべき項目は、使用するチャンネルを選択する「チャンネル」、予約する日時を指定する「予約日時」、「公開レベル」、コンテンツのタイトル名を入力する「タイトル」、コンテンツの属するジャンルを入力する「ジャンル」、コンテンツ提供者の電子メールアドレスの公開の有無を選択する「電子メール公開」、コンテンツ供給者のWebページのURLの公開の有無を選択する「WEB公開」、パスワードを入力する「パスワード」、「友達リスト」、コンテンツの概要を所定字数（例えば、200字）以内で書き込む「概要」、コンテンツの詳細を所定字数（例えば、200字）内で書き込む「詳細」といった項目である。

【0103】予約用入力欄222における入力項目「公開レベル」は、この予約に基づいて配信するコンテンツ供給の公開レベル、つまりコンテンツの配信先の制約をコンテンツ供給者であるユーザが指定する項目であり、ここでは「Public」、「Password」、「Secret」といった3つのレベルを指定することができるようになっている。

【0104】「Public」は、完全に公開することを指定するものであり、「Public」が指定された場合には、上述した一般メンバー登録をしている者であれば、当該予約に基づいたコンテンツ配信によるコンテンツの提供を受けることができる（ただし、定員数以内）。

【0105】「Password」は、当該予約に基づくコンテンツ供給を受けることができる者を制限するものであり、正当なパスワード入力を行った者のみがコンテンツ配信を受けることができる公開レベルである。ユーザが「Password」を選択した場合には、その際に使用するパスワードを入力しておく必要がある。

【0106】次に、「Secret」も、上記「Password」と同様に正当なパスワード入力を行った者だけにコンテンツ配信を許可する公開レベルである。ユーザが「Secret」を選択した場合にも、その際に使用するパスワードを入力しておく必要がある。ここで、「Password」もしくは「Secret」を選択した場合には、後述する「友達リスト」に指定された電子メールアドレス宛に、当該プログラムの配信時間や上記パスワード等の情報が通知されるようになっている。

【0107】また、「Password」と「Secret」とは、特定の者だけにコンテンツ供給を許可する点では同じであるが、両者の相違点は、「Password」を選択した場合には、上述した「本日のライブ」や「番組ガイド」のWebページに、この予約に基づくプログラムが掲載されるのに対し、「Secret」は上記Webページには掲載されず、コンテンツ供給が行われること自体も公開しないことである。「Secret」が選択された場合には、後述する「友達リスト」に掲載された電子メールアドレスを有す

る者だけに、そのコンテンツ配信があることが通知されることになる。

【0108】ユーザは、配信するコンテンツの内容等を考慮し、上述した「Public」、「Password」、「Secret」といった3つの公開レベルのいずれかを選択することできるようになっている。例えば、特定の少人数にコンテンツ配信を行いたい場合には、定員数の少ないチャンネル（低料金）を選ぶことが経済的に好ましいが、これを完全公開にすると、上記特定者以外の配信要求を受けた場合に、上記特定者が定員制限により当該コンテンツの配信を受けることができなくなる。したがって、このような場合には、「Password」や「Secret」を選択することにより、確実かつ経済的に特定者に対してコンテンツ配信を行うことができる。

【0109】予約用入力欄222における入力項目「友達リスト」は、ユーザPC106のユーザが当該予約に基づいた時間帯やチャンネルでコンテンツ配信を行うことを通知することを希望する人の電子メールアドレスを入力する欄である。ここで、入力した電子メールアドレス宛にライブキャスティングサーバ150は、当該予約に基づいたコンテンツ配信の提供を受けるための各種情報を含んだ電子メールを送信することになるが、これについての後述する。

【0110】以上のような予約用入力欄222の各項目の入力が終了し、予約ボタン223がクリックされると、ユーザPC106のCPU120は、予約用入力欄222の入力内容と同じ内容の予約希望情報ファイルを作成し、この予約希望情報ファイルをインターネット103を介してライブキャスティングサーバ150に送信する（ステップSb4）。なお、図22に示す例では、予約用入力欄222の各欄にユーザがキーボード等を操作して文字等を入力することにより、入力作業が行われるようになされているが、「チャンネル」、「予約日時」、「ジャンル」などの予め入力できる内容が決められている項目については、プルダウンメニューで選択候補を表示し、表示された候補の中からユーザが選択指定することにより入力作業を行えるようにしてもよい。

【0111】ライブキャスティングサーバ150は、上記のようにユーザPC106のユーザの入力内容に応じて作成された予約希望情報ファイルをインターネット103を介して受信し、受信した予約希望情報ファイルの内容でよいか否かを再確認するためのWebページを送信する（ステップSb5）。これにより、ユーザPC106の表示画面には、図23に示すような予約希望情報の確認を促す表示がなされる。この際、当該予約に基づくサービスの利用料金や、後にライブキャスティングサーバ150からユーザPC106に送信する予約設定情報の送信先の電子メールアドレス（この電子メールアドレスは、メンバー登録時にユーザに入力された電子メールアドレス）の確認等の表示もなされる。また、上述し

たように、このパーソナルキャスティングサービスでは、ライブ配信の予約をしたユーザが当該予約に基づく配信時間の所定時間前（例えば、6時間前）までにリコンファームを行うように義務づけられており、その旨およびリコンファームの実行手順をユーザに知らせるためのメッセージも表示される。

【0112】ここで、ユーザは、上記確認画面に表示された内容でよければ、了解ボタン240をクリックし、上記確認画面に表示された内容でよくない場合には、キャンセルボタン241をクリックする。キャンセルボタン241がクリックされると、その旨がライブキャスティングサーバ150に送信され、ライブキャスティングサーバ150は当該予約希望情報ファイルを破棄とともに、ユーザPC106の表示画面には、図22に示す予約入力用の画面が表示され、再度の入力を促す。一方、了解ボタン240がクリックされると、その旨がCPU120によってインターネット103を介してライブキャスティングサーバ150に送信される（ステップSb6）。

【0113】了解ボタン240がクリックされた場合には、ライブキャスティングサーバ150は、予約希望情報ファイルの内容をチェックして予約を許可するか否かを判別する（ステップSb7）。ここでは、入力内容に不足はないか、希望チャンネルの希望予約時間帯が空いているか否かの確認等のチェックが行われ、さらに当該予約を要求してきたユーザが設定コマ数以上の予約を行っていないか否かをチェックする。具体的には、このライブキャスティングサービスでは、登録されたユーザが1ヶ月に予約可能な最大コマ数（例えば、1コマを10分）が設定されていることは上述した通りである。したがって、ここでの予約を許可するか否かのチェックには、このユーザが1ヶ月の間に既に予約しているコマ数が上記設定コマ数よりも多いか否かを判別し、設定コマ数よりも多い場合には、予約を許可しない。一方、設定コマ数よりも少ない場合には、当該チェック結果が問題なしと判別し、他のチェック結果に問題がない場合には予約を許可する。このようにユーザの1ヶ月間の予約コマ数をチェックするために、ユーザデータベース152には、プレミアムメンバー登録されている各ユーザ毎に、現在までの予約状況が少なくとも過去1ヶ月間に遡って記憶されている。

【0114】予約を許可する場合には、ライブキャスティングサーバ150は、当該予約について予約履行時の認証にのみ用いられる予約IDを作成するとともに、上記予約希望情報ファイルの内容に基づいて、予約時間帯、使用するチャンネル、使用帯域（bps (bit per second)）、友達リストのメールアドレス等を含む予約内容情報と、予約したユーザを識別するためのユーザIDと、作成した予約IDとを予約データベース151（図18参照）に書き込んで登録する（ステップSb

8）。なお、この予約登録時点では、課金が可能であるか否かを示す課金フラグ情報は、課金「不可」となっており、この課金フラグは後にリコンファームが行われて予約が成立した場合に「可」に書き換えられる。また、ライブキャスティングサーバ150は、予約を行ったユーザに対応する「マイチャンネル」のWebページに、当該予約に関する情報を追加して書き込んでおく。また、当該予約における上記公開レベルが「Public」もしくは「Password」の場合には、ライブキャスティングサーバ150は、上述した「本日のライブ」や「番組ガイド」のWebページに、この予約に基づくプログラムを掲載するためにWebページの更新処理を行う。つまり、上記予約に基づいたコンテンツ配信が行われることを閲覧可能に記憶しておく。この場合には、インターネット103を介してクライアント端末装置107等から当該Webページを閲覧して、当該予約に基づいたライブ配信が行われる旨を知ることができる。つまり、「Public」が設定された場合はもちろんのこと、「Password」が設定されている場合にも、当該予約に基づいたライブ配信が行われることが掲載されたWebページが閲覧可能になされ、任意の第3者は当該ライブ配信がある旨を知ることができる。一方、「Secret」が設定されている場合には、ライブキャスティングサーバ150は、この予約に基づいて行われるライブ配信についての情報を、上述した「本日のライブ」や「番組ガイド」のWebページには一切掲載しない。したがって、「Secret」が設定されたライブ配信については、後述する電子メール送信を受信して閲覧した者等の特定の人のみがライブ配信が行われることを知ることができるようになっている。

【0115】このような予約登録処理が終了すると、当該サービスを利用する際の著作権の管理や禁止事項等を表示してユーザの同意を促すWebページをユーザPC106に送信し、ユーザPC106の表示画面に表示させる。そして、ユーザPC106から同意する旨の指示が送信された場合に、ライブキャスティングサーバ150は、リコンファームを除く予約手続の完了を知らせるWebページをユーザPC106に送信する。ここで、図24は、ユーザPC106の表示画面に表示される予約手続完了画面を示す。同図に示すように、この予約手続完了画面には、ユーザにリコンファームを行うことを促すメッセージが表示されている。ここで、「OK」ボタン245がクリックされると、リコンファームを除く当該予約手続が完了し、この後、ライブキャスティングサーバ150によって当該予約に関して作成された予約IDを含む電子メールがユーザPC106に送信される（ステップSb9）。

【0116】B-2-2. リコンファーム
上述したようにこのパーソナルキャスティングサービスにおいては、予約履行時間の6時間前までにユーザがリ

コンファームを行う必要があり、リコンファームが行われなかった場合には、その予約が強制的に取り消されるようになっている。したがって、予約を確立するためには、上記ライブキャスティングサーバ150からの電子メールによって予約IDを取得したユーザは、ユーザPC106を用いてリコンファームを行うことになる。なお、上述した予約IDを受け取るまでの予約手続は、ライブ配信に使用するPCと異なるPCを用いることも可能であるが、リコンファームを行うPCとしては、ライブ配信を行う際に使用するPCを使用することが義務づけられており、以下の説明においては、ユーザPC106を利用してリコンファームを行うものとし、リコンファームを行う際のユーザPC106およびライブキャスティングサーバ150の処理動作について図25を参照しながら説明する。

【0117】リコンファームを行う場合には、ユーザはユーザPC106に電源を投入した後、上述したアプリケーションプログラムを起動する（電源がオフの場合）。そして、ユーザがライブ予約モードを選択することにより、図8(a)に示す画面を表示部124に表示させる。このライブ予約モードにおいて、ユーザは操作ダイヤル126b等を操作して予約一覧表示エリア46に表示されている予約一覧のうち（1つの場合もある）、リコンファームを行う予約を選択決定する。これによりユーザPC106のCPU120は、インターネット103への接続処理を行い、ライブキャスティングサーバ150に対して当該ユーザに対応する「マイチャンネル」のWebページの閲覧要求を行う（ステップSb10）。このようにユーザPC106では、上記アプリケーションプログラムにより実現される機能により、配信予約を行うためのWebページの閲覧要求を行うことができるが、当該Webページの閲覧要求をURLを適宜入力することにより行うこともできる。具体的には、URLを入力して図13に示すホームページの閲覧要求を行い、ユーザIDおよびパスワードの入力を行ってログインし、「マイチャンネル」のリンクボタンをクリックするといった操作でWebページの閲覧要求を行うことができる。

【0118】このようにしてユーザPC106がライブキャスティングサーバ150に対して「マイチャンネル」のWebページの閲覧要求を行うと、ライブキャスティングサーバ150からインターネット103を介してユーザPC106にWebページが送信される（ステップSb11）。送信されたWebページを受信したユーザPC106は、当該Webページをブラウザ表示画面44に表示させる（ステップSb12）。

【0119】ここで、図26はブラウザ表示画面44に表示される「マイチャンネル」のWebページを示す。同図に示すように、この表示画面には、ユーザが現在ライブキャスティングサーバ150に対して行っている予

約の一覧である予約リスト250と、ユーザが過去に配信したプログラムの視聴者数を確認するためのWebページにジャンプするためのリンクボタン251と、ユーザデータベース152に登録された当該ユーザの登録用情報ファイル（図20参照）を変更するためのWebページにジャンプするためのリンクボタン252とが表示されている。また、予約のキャンセル方法や変更方法を説明する記述が表示されており、このパーソナルキャスティングサービスでは、チャンネルおよび日時といった予約内容を変更する場合には、一旦予約をキャンセルして再度配信予約の処理を行う手続を行う必要があり、その旨が記述されている。一方、タイトル名、概要などのチャンネルおよび日時以外の情報に関しては、予約キャンセルを行わずに変更することができるようになっている。

【0120】予約リスト250には、各予約毎に（図示の場合、予約は1つのみ）、「予約日時」、「チャンネル」、「タイトル」、この予約が「リコンファーム待ち」の状態であるか、「リコンファーム済み」の状態であるかといった状態が表示されるステータス項目、および予約キャンセルを指示する場合にクリックする「取消」ボタンとが表示されている。

【0121】ここで、ステータスの項目には、当該予約についてリコンファームが行われていない場合には、図示のように「リコンファーム待ち」が表示され、リコンファームが行われた後に当該ページを表示した場合には「リコンファーム済み」の表示がなされることになるが、「リコンファーム待ち」の場合に、これがクリックされると、CPU120によりリコンファーム用画面の閲覧要求がインターネット103を介してライブキャスティングサーバ150に送信される。ライブキャスティングサーバ150は、この要求に応じてリコンファーム用のWebページをインターネット103を介してユーザPC106に送信し、ユーザPC106には、図27に示すような画面表示がなされる。

【0122】同図に示すように、リコンファーム用画面には、当該予約に関する設定されている「ユーザID」、「チャンネル」、「予約日時」、「公開レベル」、「タイトル」、「ジャンル」、「電子メール公開」、「Web公開」、「パスワード」、「友達リスト」、「概要」、「詳細」といった項目の内容が表示される。また、この表示画面には、予約IDを入力する欄と、ユーザに予約IDを入力してリコンファームを行うことを促すメッセージが表示されている。

【0123】ユーザはリコンファームを行う場合には、上述した予約手続においてライブキャスティングサーバ150から送信された電子メールに含まれる予約IDを入力し、リコンファームボタン261をクリックする。一方、予約リスト250等（図26参照）が表示されたマイチャンネルの画面に戻る場合には、戻るボタン26

2をクリックする。

【0124】ここで、図27に示すリコンファーム用の表示画面には、リコンファームボタン261をクリックした場合に、ライブ配信を行う際にストリーミングサーバ102との間の通信接続を確立するための設定情報が自動的にPCに設定されるようになっており、リコンファームを対応PC、つまりライブ配信を行うPCで行うことを促すメッセージが表示されている。

【0125】上記リコンファームボタン261がクリックされると、ユーザPC106のCPU120は、ユーザによりリコンファームの実行指示があった旨をインターネット103を介してライブキャスティングサーバ150に送信する(ステップSb13)。

【0126】上述したようにユーザPC106から送信されたリコンファーム実行指示を受け取ったライブキャスティングサーバ150は、予約データベース151やユーザデータベース152を参照し、この予約に関して、図28に示す予約設定情報ファイルを作成する(ステップSb14)。ここで、ライブキャスティングサーバ150は、予約データベース151に登録されている各予約に関する情報のうち、その予約に基づいた配信開始時間の6時間前になった時点でその予約に関するデータを、予約データベース151から消去し、当該予約を取り消す。すなわち、ある予約に基づく配信開始時間の6時間前を経過した時点以降は、予約データベース151におけるその予約に関するデータが消去されることになる。したがって、配信開始時間の6時間前以降に上述したリコンファームの実行指示がライブキャスティングサーバ150に受信された場合には、予約データベース151を参照しても、当該予約についてのデータが登録されていないことになる。この場合、ライブキャスティングサーバ150は「リコンファームが実行されなかつたため、予約はキャンセルされました。予約を行う場合には、再度配信予約手続を行ってください。」等のメッセージを表示するためのWebページをユーザPC106に送信する。

【0127】一方、配信開始時間の6時間前までにライブキャスティングサーバ150がリコンファーム実行指示を受信した場合には、ライブキャスティングサーバ150によって予約設定情報が作成される。図28に示すように、ライブキャスティングサーバ150により作成される予約設定情報ファイルには、「予約ID」、「ライブ配信予約日時」、「サーバ接続可能時間」、「接続用電話番号」、「接続先サーバ情報」、「配信要求先アドレス情報」、「伝送帯域」、「タイトル」、「概要」、「公開レベル」、「友達リストアドレス情報」、「配信要求パスワード」といった情報が含まれている。

【0128】「予約ID」には、上述した当該予約について作成した予約IDが記述されており、「ライブ配信予約日時」には、予約した配信開始時刻と終了時刻が記

述される。「サーバ接続可能時刻」は、ライブ配信を行うためにストリーミングサーバ102に接続を許可する時間帯が記述されており、この例では、配信開始時刻の3分前からストリーミングサーバ102の接続を許可し、配信終了時刻の3分後までの接続を許可するような情報が記述されている。

【0129】「接続用電話番号」には、ストリーミングサーバ102に接続するためのサーバ接続専用ネットワーク108のアクセスポートの電話番号が記述されており、この例では、複数(図示は4つ)の電気通信事業者毎のアクセスポートの電話番号が記述されている。後述する実際にストリーミングサーバ102への接続を行う処理には、ユーザはいずれかの電気通信事業者を選択し、選択された電気通信事業者用のアクセスポートの電話番号に発呼する処理が行われる。

【0130】「接続先サーバ情報」には、この予約で選択したチャンネルに応じた決定される項目であり、当該チャンネルを使用する際に接続する「サーバの種類」、「サーバ名」、「接続ポート」、「サーバへのストリームバス」等の情報が記述されている。ユーザPC106とサーバ接続専用ネットワーク108のアクセスポートとの通信接続が確立されると、この「接続先サーバ情報」の記述内容に基づいてストリーミングサーバ102の予約したチャンネルを使用するための接続処理を行うことになる。

【0131】「配信要求先アドレス情報」は、クライアントPC107がユーザPC106がストリーミングサーバ102に送信するコンテンツのストリーム配信を要求する場合に、ストリーミングサーバ102に接続するために用いられるURL情報が記述されている。クライアントPC107はコンテンツの配信要求を行う場合には、当該URLを用いてインターネット103を介してストリーミングサーバ102に接続するようすればよい。

【0132】「伝送帯域」には、予約したチャンネルに応じて決定される情報が記述されており、64kbpsや28.8kbps等の予約チャンネルに予め設定されている伝送帯域の情報が記述される。「タイトル」、「概要」、「公開レベル」には、それぞれ予約時に登録した内容が記述される(図22および図23参照)。「友達リストアドレス情報」には、予約時に登録した電子メールアドレスが記述される。

【0133】「配信要求パスワード」にも、予約時に登録したパスワード情報が記述されるが、「公開レベル」が「Public」の場合、配信要求側はパスワード入力を行わずに配信要求を行えるので、この場合には「配信要求パスワード」の情報は予約設定情報ファイルに含まれない。

【0134】このようにライブキャスティングサーバ150により作成される予約設定情報ファイルには、後述

するストリーミングサーバ102の接続の際の認証に用いられる予約IDやストリーミングサーバ102との通信接続を確立するための電話番号やサーバの接続ポート等の情報が含まれている。予約設定情報ファイルは、ライブキャスティングサーバ150からインターネット103を介してユーザPC106に送信されることになるが、この際に、当該予約設定情報ファイルをユーザPC106のハードディスク123上に作成された所定の領域に自動的に書き込んで取り込ませるためのコマンド情報や、当該自動取り込みが正常に終了した、もしくは失敗したことを見つけるメッセージ表示を指示するコマンド情報が含まれている。このように配信側であるライブキャスティングサーバ150から送信したファイルを自動的に受信側のユーザPC106に取り込む技術としては、「ActiveX」(マイクロソフト社の登録商標)の技術を用いるようにすればよい。この技術を使用する場合にはユーザPC106は、ブラウザソフトウェアとして、上記「ActiveX」を使用することができる「Internet Explorer(マイクロソフト社)」を使用する必要がある。

【0135】以上のような各種データやコマンドを含んだ予約設定情報ファイルをテキストデータ等で作成したライブキャスティングサーバ150は、このファイルをDES(Data Encryption Standard)等の暗号方式を用いて暗号化し、当該暗号化ファイルをリコンファーム完了画面を表示するWebページと共にインターネット103を介してユーザPC106に送信する(ステップSb15)。

【0136】上記のようにライブキャスティングサーバ150から暗号化された予約設定情報ファイルとWebページが送信されると、ユーザPC106のCPU120は、これを受信して上述した「ActiveX」の技術を用いて予約設定情報ファイルを解読し、当該ファイルに含まれるコマンドにしたがってハードディスク123の所定の領域に自動的に取り込むとともに(ステップSb16)、リコンファーム完了画面をブラウザ表示画面44に表示させる(ステップSb17)。したがって、ユーザPC106には、上述したような暗号を解読するプログラムが格納されており、上記予約設定情報ファイルの解読時には、このプログラムを実行する。また、CPU120が予約設定情報ファイルを所定の領域に書き込む際には、所定の暗号方式(DES等)で暗号化して書き込むようなプログラムがユーザPC106には格納されており、このプログラムの実行によって予約設定情報は暗号化されて保存されることになる。したがって、通常、ユーザは自動的に取り込まれた当該予約設定情報ファイルの内容を表示させて参照するといったことができないようになされている。これにより、サーバ接続専用ネットワーク108のアクセスポート番号が不用意に多数の人々に知られたりすることが抑制され、当該サービスを妨害

する等のためにサーバ接続専用ネットワーク108のアクセスポートに不正なアクセスが行われてしまうことを低減できる。

【0137】ここで、図29は上記のようにブラウザ表示画面44に表示されるリコンファーム完了画面を示す。同図に示すように、この画面には、サービス提供者側の現在時刻と、ユーザPC106の時刻とが表示されるようになっている。ここで、サービス提供者側の時刻は、ライブキャスティングサーバ150が当該Webページを送信する際に、NTPサーバ153から取得した時刻情報である。一方、ユーザPC106の時刻には、ユーザPC106が有するクロックによる現在時刻が表示される。そして、ユーザPC106のCPU120は、これらの時刻の差(分単位)を算出し、時刻ずれがある場合には図示のようにずれがある旨のメッセージを表示させる。なお、このようにユーザPC106のユーザにサービス提供者側との時刻ずれを通知して注意を促すようにしてもよいが、ユーザPC106に上記のようにWebページとともに送信されたサービス提供者側の時刻情報に基づいてユーザPC106の時刻を自動的に補正する時刻補正プログラムを格納させておき、上記のようにユーザPC106がリコンファーム完了画面のWebページを受信した場合に、CPU120が時刻補正プログラムを実行することにより、ユーザPC106の時刻をサービス提供者側の時刻に合わせて補正するようにもよい。これにより、サービス提供者側の時刻と、ユーザPC106側の時刻が共通したものとなり、ライブ配信といった時間の正確性が要求されるサービスを円滑に進めることが可能となる。

【0138】また、リコンファーム完了画面には、ダイヤルアップルータを利用してサーバ接続専用ネットワーク108に接続する場合の特例事項が記述されている。ユーザPC106では、ライブ配信を実行するためにストリーミングサーバ102との通信接続処理を実行する場合、上述した予約設定情報ファイルに記述されているサーバ接続専用ネットワーク108のアクセスポートへのアクセス電話番号に自動的に発呼するように設定されている(詳細は後述する)。このように自動的に発呼するプログラムをCPU120が実行するようにしておくことにより、ユーザは電話番号の入力といった面倒な入力操作を行うことなく、自動的に通信接続処理を行うことができる。しかしながら、ユーザPC106がダイヤルアップルータを介してネットワークに接続される場合には、ダイヤルアップルータを介してサーバ接続専用ネットワーク108に接続するための情報を設定しておく必要がある。したがって、予約設定情報ファイルに記述された電話番号に基づいて自動的に発呼するといった処理が行えないもので、アクセスポートの電話番号等をユーザが手動で設定する必要がある。上記特例事項は、このようなダイヤルアップルータを利用する場合に手動設定

を行う必要があること考慮した記述であり、この場合にユーザーに手動設定してもらうためのアクセスポート番号、ログインID(この場合、予約ID)、パスワードが表示される。なお、図示の例では、ダイヤルアップルータを利用した接続は、ISDN(Integrated Services Digital Network)経由の場合にのみ許可するようになっているが、これに限定されるものではない。

【0139】ユーザによって、上記リコンファーム画面の表示が確認されて「OK」ボタン291をクリックされると、「OK」ボタン291がクリックされた旨を示す情報がCPU120によってインターネット103を介してライブキャスティングサーバ150に送信され(ステップSb18)、ユーザ側のリコンファームに関する処理が終了する。一方、「OK」ボタン291がクリックされて、その旨を受信したライブキャスティングサーバ150は、予約データベース151を参照して当該予約について「友達リスト」に登録されている電子メールアドレス宛に、ライブ配信があることを通知する電子メールを送信する(ステップSb19)。ここで、図30は当該電子メールを開封した場合に、そのPCの表示画面に表示される内容を示す。同図に示すように、この電子メールには、「ライブ配信日時」、「タイトル」、「概要」、「配信要求先のURL」(図28の「配信要求先アドレス情報」参照)、公開レベルが「Password」や「Secret」である場合には配信要求のための「パスワード」(図28の「配信要求パスワード」参照)等の情報が表示される。これにより、ユーザPC106のユーザは、予約時にライブ配信を見せたい友達等の電子メールアドレスを登録しておけば、その友達に自動的にライブ配信を受けるための情報を通知することができる。したがって、ライブ配信を行うユーザが、ライブ配信を受けるための情報を電話で伝えたり、当該情報を含んだ電子メールを作成したりするといった煩雑な作業が必要なくなる。

【0140】なお、上記説明においては、「友達リスト」に登録されている電子メールアドレスへの上記電子メール(図30参照)の送信処理をリコンファーム完了後に行なうようにしているが、ライブキャスティングサーバ150による上記電子メール送信のタイミングは、ユーザからの予約希望ファイルに基づいた予約データベース151への予約登録処理(図21のステップSb8)が終了した時点で行なうようにしてもよい。このように予約登録処理終了時点で電子メールを送信すれば、電子メールアドレスを有する者は、より早い時点でライブ配信があることを知ることができる。また、この場合にはリコンファーム完了時点で再度同様の電子メール送信処理を行なうようにしてもよい。

【0141】また、上記のように電子メール送信を行うと共に、ライブキャスティングサーバ150は、リコンファームに関する処理が終了すると、当該予約が成立し

たものとし、この予約についての予約データベース151の課金フラグ情報を「可」に書き換え、当該予約について課金処理を行う。ここで、課金金額は、上述したようにチャンネル毎に予め設定された使用料金に基づいて算出されることになる。例えば、1コマ(10分)で100円の使用料金が設定されているチャンネルを6コマ使用する予約が成立した場合、当該予約について600円の課金がなされることになる。ただし、実際の課金処理は、ライブ配信当日にストリーミングサーバ102が正常に動作していたことが確認された後に実行される。

【0142】なお、上記説明においては、ライブキャスティングサーバ150から送信された予約設定情報ファイルを暗号化して自動的に格納するプログラムを格納しているユーザPC106を用いた場合について説明したが、このようなプログラムを格納していないPCでは、上記のような自動取り込みを行うことができない。このような場合には、次のような手法で予約設定情報ファイルをPC側に取り込むようしている。まず、上記のようなプログラムを格納していないPCの場合には自動取り込みができず、自動取り込みが失敗したことがそのPCの表示画面に表示されるようになっている。失敗したことの表示画面には、失敗したことを通知するメッセージに加え、再度マイチャンネル(図26参照)に戻ってリコンファーム待ちをクリックしてリコンファーム用画面の閲覧要求を再度行なうことを指示するメッセージが表示される。一方、上述したリコンファーム完了画面のWebページをユーザPC106に送信した後で、ユーザPC106からのリコンファーム確認「OK」が送信されず、かつユーザPC106からのリコンファーム用画面の要求を受けたライブキャスティングサーバ150は、ユーザPC106が予約設定情報ファイルの自動取り込みに失敗したと判定し、予約設定情報ファイルをダウンロードするためのWebページをインターネット103を介してユーザPC106に送信する。この結果、PC側の表示画面には、予約設定情報ファイルのダウンロードボタンが表示され、当該ボタンをクリックすることにより、予約設定情報ファイルのダウンロードが行われる。

【0143】以上説明したのが、予約の要求からリコンファーム完了による予約成立までの配信予約処理動作の流れであるが、このようにリコンファームが完了した後にも、ジャンルや概要等の情報については変更することが可能であり、またリコンファーム完了後に予約を取り消すことも可能となっている(この場合、上記課金フラグ情報が「可」であるため、課金処理は行われる。)。以下、このような変更および取り消しを行う場合の処理動作について、ユーザPC106の表示部124に表示されるブラウザ表示画面44の表示内容を参照しながら説明する。

【0144】まず、リコンファーム済みの予約の変更も

しくは取り消しを行う場合には、上述したリコンファームを行う時と同様に「マイチャンネル」に対応したWebページの閲覧要求を行うための操作を行う。これによりユーザPC106のCPU120は、インターネット103への接続処理を行い、ライブキャスティングサーバ150に対して当該ユーザに対応する「マイチャンネル」のWebページの閲覧要求を行う。

【0145】このようにしてユーザPC106がライブキャスティングサーバ150に対して「マイチャンネル」のWebページの閲覧要求を行うと、ライブキャスティングサーバ150からインターネット103を介してユーザPC106にWebページが送信される。送信されたWebページを受信したユーザPC106は、当該Webページをブラウザ表示画面44に表示させる。

【0146】ここで、図31はブラウザ表示画面44に表示されるリコンファーム済みの「マイチャンネル」のWebページを示す。同図に示すリコンファーム済みの「マイチャンネル」の表示画面と、リコンファーム待ちの「マイチャンネル」の表示画面(図26参照)とを比較すると、リコンファーム済みの画面には、予約リスト250のステータス項目に「リコンファーム済み」と表示される点と、「変更」といったリンクボタン310が表示される点で異なっている。

【0147】変更を行う場合には、当該「変更」のリンクボタン310をクリックすることになる。「変更」のリンクボタン310がクリックされると、ユーザPC106のCPU120は、「変更」のリンクボタンがクリックされたことをインターネット103を介してライブキャスティングサーバ150に送信する。これにより、ライブキャスティングサーバ150は、変更用のWebページをインターネット103を介してユーザPC106に送信し、この結果、ユーザPC106のブラウザ表示画面44には、図32に示す画面が表示される。

【0148】同図に示すように、変更用画面には、現在設定されている予約内容が表示されており、これらの表示内容のうち、「ジャンル」、「電子メール公開」、「Web公開」、「パスワード」、「概要」、「詳細」といった項目については変更可能であり、この表示の際には変更可能な項目の表示色を変更できない項目(予約日時等)と異ならせている。

【0149】ユーザは、変更を希望する項目について、現在表示されている設定内容に変更後の内容を上書きし、更新ボタン321をクリックする。なお、変更しない場合には、戻るボタン322をクリックする。

【0150】そして、ユーザの操作により更新ボタン321がクリックされると、ユーザPC106のCPU120は、当該変更内容の情報ファイルを作成し、これをインターネット103を介してライブキャスティングサーバ150に送信する。これにより、ライブキャスティングサーバ150は、当該変更内容の情報ファイルに基

づいて予約データベース151の登録内容を更新とともに、変更完了画面のWebページをインターネット103を介してユーザPC106に送信する。この結果、ユーザPC106のブラウザ表示画面44には、図33に示す画面が表示される。

【0151】同図に示すように、変更完了画面には、変更が受け付けられたことを示すメッセージに加え、上述したリコンファーム完了画面(図30参照)と同様に、サービス提供者側時刻およびユーザPC106側の時刻と、互いの時刻差等が表示され、またダイヤルアップルータを使用する際の特例事項が表示される。ここで、「OK」ボタン331をクリックすると、変更が終了し、図31に示す「マイチャンネル」の画面に戻る。

【0152】このように予約が変更されると、ライブキャスティングサーバ150は、予約が変更されたことや、変更内容等のメッセージを含む電子メールを、上述した友達リストに登録された電子メールアドレス宛に送信する。これによりユーザPC106のユーザがライブ配信の予約内容が変更されたことを電話で伝えたり、その旨のメッセージを含む電子メールを作成するといった作業を行わなくても、当該友達リストの電子メールアドレスを有する人には、自動的にライブ配信の予約変更内容を知らせることができる。

【0153】次に、予約を取り消す場合について説明する。この場合にも、上述したリコンファームや変更する場合と同様に、「マイチャンネル」に対応したWebページの閲覧要求を行うための操作を行う。これにより、上述したようにブラウザ表示画面44には、図31に示すリコンファーム済みの「マイチャンネル」画面が表示される。

【0154】予約を取り消す場合には、ユーザは「取消」のリンクボタン311をクリックすることになる。「取消」のリンクボタン311がクリックされると、ユーザPC106のCPU120は、「取消」のリンクボタンがクリックされたことをインターネット103を介してライブキャスティングサーバ150に送信する。これにより、ライブキャスティングサーバ150は、取消用のWebページをインターネット103を介してユーザPC106に送信し、この結果、ユーザPC106のブラウザ表示画面44には、図34に示す取消用の画面が表示される。

【0155】同図に示すように、取消用の画面には、現在設定されている予約内容が表示されるとともに、「予約取消」ボタン341と、「戻る」ボタン342が表示されている。ここで、ユーザは予約を取り消す場合は、「予約取消」ボタン341をクリックし、取り消さない場合には「戻る」ボタン342をクリックする。

【0156】そして、ユーザの操作により「予約取消」ボタン341がクリックされると、ユーザPC106のCPU120は、この予約を取り消す旨をインターネッ

ト103を介してライブキャスティングサーバ150に送信する。これにより、ライブキャスティングサーバ150は、この予約に関する予約データベース151の登録内容を消去するとともに、取消完了画面のWebページをインターネット103を介してユーザPC106に送信する。この結果、ユーザPC106のブラウザ表示画面44には、図35に示すように、取り消されたことを通知するメッセージが表示される。ここで、「OK」ボタン343をクリックすると、取り消しが終了し、図31に示す「マイチャンネル」の画面に戻る。

【0157】このように予約が取り消されると、ライブキャスティングサーバ150は、予約が取り消されてライブ配信が中止になった旨のメッセージを含む電子メールを、上述した友達リストに登録された電子メールアドレス宛に送信する。これによりユーザPC106のユーザがライブ配信が中止になったことを電話で伝えたり、その旨のメッセージを含む電子メールを作成するといった作業を行わなくても、当該友達リストの電子メールアドレスを有する人には、自動的にライブ配信が中止になったことを知らせることができる。

【0158】また、上述したようにリコンファームが行われた後に、ユーザが予約内容を確認したい場合には、図31に示す画面の「リコンファーム済み」ボタンをクリックする。「リコンファーム済み」ボタンがクリックされると、ユーザPC106のCPU120によりその旨がインターネット103を介してライブキャスティングサーバ150に送信される。これにより、ライブキャスティングサーバ150は、リコンファーム済みの予約確認用Webページをインターネット103を介してユーザPC106に送信する。この結果、ユーザPC106のブラウザ表示画面44には、図36に示すように、現在設定されている予約内容と、ダイヤルアップルータを使用する場合の特例事項と、「PC接続設定を再登録する」ボタン361と、「マイチャンネル」画面に戻ることを指示する「戻る」ボタン362とが表示される。

【0159】ここで、「PC接続設定を再登録する」ボタン361がクリックされると、ユーザPC106のCPU120によりその旨がインターネット103を介してライブキャスティングサーバ150に送信される。これにより、ライブキャスティングサーバ150は、予約設定情報ファイル(図29参照)を再度103を介してユーザPC106に送信する。この結果、ユーザPC106においては、予約設定情報ファイルの自動取り込み処理が行われる。このような予約設定情報ファイルの再送処理は、例えば、ライブ配信を行うPCをリコンファームを行ったPCから変更する場合などに行うようすればよい。

【0160】B-3. ライブ配信

上述のようなリコンファームを含む配信予約が終了し、当該予約したライブ配信開始時刻が来ると、ユーザPC

106のユーザは、サーバ接続専用ネットワーク108を介してストリーミングサーバ102に接続し、コンテンツのライブ配信を行うことになる。そして、クライアントPC107は、このコンテンツのストリーム配信を要求してコンテンツ提供を受けることになる。

【0161】B-3-1. ユーザPCからストリーミングサーバへのコンテンツ送信

以下、ライブ配信におけるユーザPC106からストリーミングサーバ102にコンテンツを送信する際のユーザPC106、サーバ接続専用ネットワーク108、データベースサーバ155(図12参照)、およびストリーミングサーバ102の処理動作について、当該処理動作のシーケンスフローチャートを示した図37を参照しながら説明する。

【0162】ライブ配信を行う場合には、予約したライブ配信開始時刻よりも5分前からストリーミングサーバ102への接続が許可されるため、この時間以降、ユーザPC106とストリーミングサーバ102との通信接続を確立するための処理を開始することになる。ユーザは当該ライブ配信開始時刻前に、コンテンツ配信の準備を行っておく。ここで、コンテンツ配信の準備としては、ディジタルビデオカメラ129(図3参照)の撮影位置の決定や、配信するコンテンツの構想に基づいたライブ配信モードにおけるエフェクトの設定処理(図10および図11参照)等がある。

【0163】本実施形態におけるユーザPC106は、予約したライブ配信開始時刻の所定時間前(例えば、10分前)等に「まもなくライブ配信開始時刻」といったメッセージを表示してユーザに通知するためのプログラムを格納しており、図37に示すように、上記所定時間前になると、ユーザPC106のCPU120はこのプログラムを実行することにより、表示部124に「まもなくライブ配信開始時刻」といったメッセージが表示されるようになっている(ステップSc1)。これにより、ユーザがライブ配信開始時刻を忘れてしまうといったことを低減できるようになっている。ここで、ユーザPC106が上述したアプリケーションにおけるライブ配信モードになっていない場合には、CPU120は当該アプリケーションプログラムを自動的に実行し、また当該アプリケーションにおけるライブ配信モードを自動的に選択して、表示部124に「ライブ配信モード」の画面(図9(a)参照)を表示させる。

【0164】この後、ユーザPC106では、上述したストリーミングサーバ102への接続開始が許可される時刻(開始時刻の5分前)になると、CPU120が接続処理プログラムを実行することにより、ストリーミングサーバ102との通信接続処理を自動的に開始するようになっている。ここで開始される通信接続処理は、完全に自動化されたものであってもよいし、最終的な接続開始の指示のみをユーザが入力し、この入力をトリガー

として自動的に行われるものであってもよい。

【0165】ここで、上記通信接続処理プログラムに従ったCPU120による処理では、所定のレジストリに暗号化されて記憶されている予約設定情報ファイル(図29参照)が解読され、このファイルの「予約ID」、「サーバ接続可能時間」、「接続用電話番号」および「接続用サーバ情報」の項目に記述されている情報に基づいて以下のような通信接続処理が行われる。

【0166】まず、「サーバ接続可能時間」に示される接続可能な開始時刻になった時点で当該通信接続処理を開始し、予めユーザーによって設定されている電気通信事業者のアクセスポート電話番号を予約設定情報ファイルの「接続用電話番号」を参照することにより取得し、当該電話番号に発呼する処理を行う。そして、サーバ接続専用ネットワーク108のアクセスサーバに対して、予約IDを送信して通信接続の要求を行う(ステップSc2)。このように自動的に発呼する処理が行われるので、ユーザーは電話番号の入力等の操作を行わなくてもよい。特に、上述したようにライブ配信の場合には、図3(b)や図3(c)に示すような形態でユーザーPC106を使用することがキーボード126aを使用した情報等の入力操作は非常に煩雑となるので、上記のように自動的に発呼する処理を行うようにすることでユーザーにより快適なコンテンツ作成環境を提供することができる。

【0167】サーバ接続専用ネットワーク108のアクセスサーバは、上記のようにアクセスポートに接続を要求してきたユーザーPC106が正当な予約を有するユーザーのものであるか否かの認証を行うために、送信された予約IDをサーバ使用予約管理センタ101のデータベースサーバ155に送信する(ステップSc3)。このようにサーバ接続専用ネットワーク108のアクセスサーバから送信された予約IDを受信したデータベースサーバ155は、この予約IDが現在から開始する時間帯において、予約データベース151に登録されているか否かを確認することにより認証処理を行う(ステップSc4)。ここで、送信された予約IDが予約データベース151に登録されている場合には、この予約IDを送信してきたユーザーPC106は正当な予約を有するユーザーのものであると判断し、送信された予約IDがその時間帯において、予約データベース151に登録されていない場合には、正当な予約を有するものではないと判断する。

【0168】ここでの認証処理においては、上記のように予約IDのみが用いられているが、これにより次のような効果が得られる。例えば、当該サービスのメンバーが有するユーザーIDおよびパスワードを用いて予約の認証を行う場合には、ユーザーIDおよびパスワードが正当なものであり、アクセスしてきたものがメンバーであることが確認されても、そのメンバーがその時間帯の予約を有するものであるか否かを判別することができない。

したがって、認証処理においては、ユーザーがメンバーであることの認証を行った後、さらに予約の登録内容を確認し、そのユーザーIDにより特定されるメンバーがその時間帯に予約をしているか否かをチェックする必要があり、認証処理が煩雑である。これに対し、上述したようにある予約に対してのみ認証に用いられる予約IDを用いれば、この予約IDはユーザーのみが知りうる情報であるからユーザーIDに対する認証を行う必要がなく、その予約IDがアクセスしてきた時間に対応する時間帯の予約として登録されているか否かを確認するといった簡単な認証処理で正当な予約者であるか否かを判別することができる。

【0169】上記のように予約IDを用いて認証処理を行ったデータベースサーバ155は、この認証結果をサーバ接続専用ネットワーク108のアクセスサーバに送信する(ステップSc5)。

【0170】サーバ接続専用ネットワーク108のアクセスサーバは、上記データベースサーバ155からの認証結果が正当な予約者のものであるといったものである場合、ユーザーPC106とストリーミングサーバ102との接続を許可し、これにより両者がPPP接続され、両者の間の通信接続が確立される(ステップSc6)。一方、上記認証結果が正当な予約者でないといったものである場合には、サーバ接続専用ネットワーク108のアクセスサーバは、ストリーミングサーバ102との接続を許可せず、ユーザーPC106からの呼を直ちに切断する。このように不正なもののからの呼であると判断した場合に、その呼を直ちに切断することにより、正当な予約者のための回線を確保するようにしている。

【0171】上述したようにサーバ接続専用ネットワーク108を介してストリーミングサーバ102と接続されると、ユーザーPC106のCPU120は、ストリーミングサーバ102に対して予約IDを送信してライブ配信の要求を行う(ステップSc7)。

【0172】ユーザーPC106からのライブ配信要求を受けたストリーミングサーバ102は、ライブ配信要求をしてきたユーザーPC106が正当な予約を有するユーザーのものであるか否かの認証を行うために、送信された予約IDをサーバ使用予約管理センタ101のデータベースサーバ155に送信する(ステップSc8)。このようにストリーミングサーバ102から送信された予約IDを受信したデータベースサーバ155は、この予約IDが現在から開始する時間帯において、予約データベース151に登録されているか否かを確認することにより認証処理を行う(ステップSc9)。ここでの認証処理は、上述したサーバ接続専用ネットワーク108のアクセスサーバから予約IDが送信された場合と同様である。

【0173】上記のように予約IDを用いて認証処理を行ったデータベースサーバ155は、この認証結果をス

ストリーミングサーバ102に送信する（ステップSc10）。

【0174】ストリーミングサーバ102は、上記データベースサーバ155からの認証結果が正当な予約者のものであるといったものである場合、ユーザPC106によるライブ配信を許可し、許可する旨をユーザPC106に送信するとともに（ステップSc11）、予約データベース151から当該予約に関する情報（予約時間帯、チャンネル等）を取得し、この情報に基づいてライブ配信を制御する。これにより、ユーザPC106のCPU120は、ライブ配信が許可されたことをユーザに通知するメッセージ等を表示させ、ユーザに対してコンテンツ配信の開始を促す。このような通知を受けると、ユーザは操作ダイヤル126bや操作ボタン126cを適宜操作してディジタルビデオカメラ129の撮影を開始し、かつ撮影された映像にリアルタイムでエフェクト処理を行った動画像データを作成するとともに、ライブ配信開始を指示して、作成した動画像データをリアルタイムでサーバ接続専用ネットワーク108を介してストリーミングサーバ102に送信する（ステップSc12）。

【0175】このようにユーザPC106から送信されるコンテンツである動画像データを受信したストリーミングサーバ102は、これを要求のあったクライアントPC107に対してストリーム配信する。この際、当該ライブ配信の「公開レベル」（図22等参照）が「Public」である場合には、ライブ配信を行うチャンネルの定員数内であれば、無条件に配信要求に応じてストリーム配信を行う。一方、「公開レベル」が「Password」または「Secret」である場合には、配信要求をしてきたクライアントPC107に対して、パスワードの入力を促し、正当なパスワードの入力がなされたクライアントPC107に対してのみストリーム配信を行うが、ストリーミングサーバ102とクライアントPC107との間の配信要求およびストリーム配信の処理動作については後述する。

【0176】このようにライブ配信が開始されると、ストリーミングサーバ102はNTPサーバ153から取得したサービス提供者側の時刻情報や、当該ライブ配信を視聴している、つまりこのコンテンツの配信を要求しているクライアントPC107の数を示す情報をユーザPC106に送信する。これにより、ユーザPC106の表示部124に表示されるステータスウィンドウSW（図9（a）参照）には、オンエア中であることを示す情報、配信経過時間情報、サービス提供者側の時刻情報、ユーザPC106側の時刻情報、視聴者数情報、予約開始終了時刻、配信の残り時間を示す残時間情報、画像サイズ情報、配信データの伝送速度情報等の表示がなされる。ユーザは、このステータスウィンドウSWの表示を参照することにより、現在進行中のライブ配信に関

する様々な情報を知ることができる。特に、コンテンツの発信者としては、何人の人が当該コンテンツを視聴しているのかといったことは気になるものであり、例えば次回にライブ配信を行う際のチャンネル選択（定員数の選択）の参考にもなる。したがって、上記のように視聴者数表示はユーザにとっては有意義なものであるといえる。

【0177】このようにユーザPC106からストリーミングサーバ102へのコンテンツ送信が行われ、ユーザPC106のユーザが、予約終了時刻（サービス提供者側の時刻）よりも先にライブ配信を終了させる場合には、操作ダイヤル126b（図3参照）等を操作して、ライブ配信モードにおけるGUI（図9（b）参照）の「配信開始／終了」を選択決定する。これにより、ユーザPC106のCPU120は、コンテンツの送信処理を終了し、ストリーミングサーバ102との接続を切断する（ステップSc13）。

【0178】一方、予約終了時間前にユーザが自らコンテンツ送信を終了した場合には、上記のような処理が行われるが、予約終了時間になった時点でユーザPC106からストリーミングサーバ102へのコンテンツ送信が行われている場合には、ストリーミングサーバ102は、予約終了時間になった時点でユーザPC106から送信されるコンテンツのクライアントPC107に対するストリーム配信処理を終了する。さらに、上述した「サーバ接続可能時間」（図29参照）に示されるユーザPC106の接続を終了する時刻になった時点でユーザPC106との通信接続を強制的に切断する。

【0179】B-3-2. ストリーミングサーバからクライアントPCへのコンテンツのストリーム配信
以上説明したのが、ライブ配信時における発信者端末であるユーザPC106からストリーミングサーバ102へのコンテンツ送信処理の詳細であり、ストリーミングサーバ102は、このようにユーザPC106からのコンテンツ送信を受けて要求のあったクライアントPC107に対して当該コンテンツのストリーム配信処理を行うことになる。このようなコンテンツのストリーム配信時の処理動作について、配信要求を行うクライアントPC107の表示画面等を参照しながら説明する。なお、以下の説明においては、当該コンテンツ配信の「公開レベル」（図22参照）が「Password」または「Secret」であり、このクライアントPC107のユーザは、コンテンツ提供を受けるためのパスワードを知っているものとする。

【0180】クライアントPC107のクライアントユーザがコンテンツの配信要求を行う場合、クライアントユーザはクライアントPC107に電源を投入した後、ブラウザソフトウェアを起動する。そして、クライアントユーザがクライアントPC107において、ライブキャスティングサーバ150のWebページのトップペー

シを識別するためのURLを入力し、これによりクライアントPC107のCPUは、インターネット103を介してライブキャスティングサーバ150に対して当該Webページの閲覧要求を行う。これにより、ライブキャスティングサーバ150からインターネット103を介してWebページのトップページが送信され、この結果、クライアントPC107の表示画面には、図13に示す画面が表示される。

【0181】コンテンツ配信を受ける場合には、クライアントユーザは、「本日のライブ」(図15参照)もしくは「番組ガイド」(図17参照)といったリンクボタンをクリックすることになる。「番組ガイド」をクリックした場合には、さらに図17に示す画面に表示されるカレンダー上の現在の日付をクリックする。これにより、図15に示すように、その日に配信されるプログラムが表示される。そして、クライアントユーザは、表示されているプログラムの中から、配信要求を行うプログラムの「タイトル」のリンクボタンをクリックする。

【0182】このように「タイトル」のリンクボタンがクリックされると、クライアントPC107のCPUは、当該「タイトル」の詳細情報を表示するWebページの閲覧要求をインターネット103を介してライブキャスティングサーバ150に送信する。これにより、ライブキャスティングサーバ150は、指定されたライブプログラムの詳細情報が表示されたWebページをインターネット103を介してクライアントPC107に送信する。この結果、クライアントPC107の表示画面には、図16に示す画面が表示されることになる。

【0183】クライアントユーザは、この詳細情報が表示されたプログラムの配信を要求する場合には、図16に示す表示画面において、配信許可を得るためのパスワードを入力するとともに、「再生」ボタン175をクリックすることになるが、リアルタイム再生ソフトウェアをクライアントPC107が格納していない場合には、「再生」ボタン175をクリックする前に「再生ソフト」ボタン176をクリックして再生ソフトウェアを予めダウンロードしておく。

【0184】そして、パスワードが入力されて「再生」ボタン175がクリックされると、クライアントPC107のCPUは、入力されたパスワードおよび配信要求をインターネット103を介してストリーミングサーバ102に送信する。ストリーミングサーバ102は、送信されたパスワードをデータベースサーバ155に送信し、データベースサーバ155は予約データベース151を参照することにより、送信されたパスワードが正当なものであるか否かといった認証処理を実行し、認証結果をストリーミングサーバ102に送信する。

【0185】ストリーミングサーバ102は、上記認証結果が正当なパスワードであると判断するものである場合には、当該コンテンツ配信に使用されているチャンネ

ルに予め設定されている定員数に基づいて当該クライアントPC107への配信を行うか否かを判別する。具体的には、現在、当該コンテンツの配信を行っているクライアントPC107の数と上記定員数とを比較し、既に定員数のクライアントPC107に対してコンテンツ配信を行っている場合には、それ以上の配信は行わない。すなわち、配信要求があった時点で、定員数のクライアントPC107に対してコンテンツ配信を行っている場合には、その配信要求には応じない。

【0186】一方、配信要求があった時点でのコンテンツの配信先のクライアントPC107の数が定員数未満の場合には配信を行うこととし、この場合要求してきたクライアントPC107への配信を許可し、ストリーミングサーバ102から当該クライアントPC107へのコンテンツのストリーム配信が行われる。このようにストリーム配信が開始されると、クライアントPC107の表示画面には、図38に示すように、プログラムの詳細情報表示画面上に上記再生ソフトウェアの再生表示画面390が表示され、当該再生表示画面390にストリーム配信されたコンテンツがリアルタイムで再生される。このようにしてクライアントPC107のユーザは、ライブ配信されるコンテンツをリアルタイムで再生して視聴することができる。

【0187】また、ストリーミングサーバ102は当該プログラムの配信要求があって、実際に配信を行っているクライアントPC107の数を逐次カウントし、このカウント結果、つまり視聴者数情報をコンテンツの送信端末(上記説明ではユーザPC106)に送信する。

【0188】なお、上記説明においては、クライアントPC107がライブキャスティングサーバ150のWebページを介してストリーミングサーバ102に配信要求を行うようしているが、上記「友達リスト」(図22参照)に設定されている電子メールアドレスを有する者がクライアントPC107を用いて配信要求を行う場合には、上述したようにライブキャスティングサーバ150から送信された電子メール(図30参照)の「配信要求先アドレス情報」に表示されたURLを入力する、もしくは表示されているURLをクリックするといった操作を行うようにしてもよい。このような操作を行えば、クライアントPC107のCPUは、当該URLに指定された接続先、つまりストリーミングサーバ102への接続処理を開始することになり、これによりストリーミングサーバ102に対して配信要求を行うことができる。

【0189】C. 変形例

なお、本発明は、上述した実施形態に限定されるものではなく、以下に例示するような種々の変形が可能である。

【0190】(変形例1) 上述した実施形態においては、ストリーミングサーバ102は、ユーザPC106

から送信されたコンテンツを、要求のあったクライアントPC107に対してストリーム配信する処理を行っていたが、当該ストリーム配信処理を行うと共に、ユーザPC106から送信されたコンテンツをハードディスク等のメディアに格納し、これをオンディマンドのプログラムとして配信するといった再放送サービスを行えるようにもよい。この場合、当該再放送プログラムを上述した「本日のプログラム」のWebページ(図15参照)に掲載し、要求のあったクライアントPC107に対してこのコンテンツを配信するようにすればよい。

【0191】また、上述した実施形態においては、ユーザPC106のデジタルビデオカメラ129がリアルタイムで撮影した動画像データをコンテンツとしてストリーミングサーバ102に送信してコンテンツ配信を行うようになっていたが、予めユーザがユーザPC106等を用いて作成しておいたコンテンツをハードディスク123に格納しておき、このコンテンツを予約した配信時間にストリーミングサーバ102に送信してコンテンツ配信を行うようにしてもよい。また、ユーザPC106を用いて上記実施形態のようにリアルタイムでコンテンツ送信を行うために、撮影した動画像データ等のコンテンツをストリーミングサーバ102に送信する際に、当該コンテンツをユーザPC106のハードディスク123に格納しておいてもよい。そして、再度ライブ配信の予約を行い、格納したコンテンツを再放送プログラムとして、再度ユーザPC106からストリーミングサーバ102に送信してコンテンツ配信を行うようにしてもよい。

【0192】(変形例2) また、上述した実施形態においては、ストリーミングサーバ102は、ユーザPC106から送信されたコンテンツを、要求のあったクライアントPC107に対してストリーム配信する処理を行っていたが、当該ストリーム配信処理を行うと共に、ユーザPC106から送信されたコンテンツをハードディスク等のメディアに格納しておき、要求のあったクライアントPC107等に対して、このコンテンツをCD-ROM(Compact Disc-Read Only Memory)やDVD-ROM(Digital Versatile Disc-Read Only Memory)等の公知の種々のパッケージメディアに書き込み、これを要求したユーザ宛に配送するといったサービスを行いうようにしてもよい。このようなサービスによれば、ライブ配信されるコンテンツを視聴してお気に入りのコンテンツについて、クライアントPC107のクライアントユーザがパッケージメディアに書き込まれたコンテンツの配送を要求するといったことが可能となる。ここで、上述したようにコンテンツの発信端末であるユーザPC106とストリーミングサーバ102との通信経路は、サーバ接続専用ネットワーク108を用いているので十分な伝送帯域を確保することができる。一方、ストリーミングサーバ102とクライアントPC107との間の

通信経路は、インターネット103を利用したものであるため、十分なデータ伝送帯域を確保できるとは限らず、伝送帯域の制約を受ける虞が高い。このような伝送帯域の制約により、クライアントPC107に配信されるストリームデータの伝送速度を小さくする必要があり、この場合、クライアントPC107でのコンテンツの再生画質の劣化等が生じてしまうことになる。上記サービスでは、気に入ったコンテンツについては高品質の映像再生で視聴したいといった要望に応えることができる。すなわち、上記サービスを利用すれば、ユーザPC106からストリーミングサーバ102に送信されたコンテンツをそのままパッケージメディアに書き込み、これに書き込まれたコンテンツデータをクライアントPC107を用いて再生することができるので、クライアントユーザは、ユーザPC106からストリーミングサーバ102に送信されたコンテンツと同等の品質で当該コンテンツを視聴することができる。このようなパッケージメディアに記録されたコンテンツの提供を受けるクライアントは、当該パッケージメディアに格納されたコンテンツを再生表示できる機能を有するプレイヤー装置(PC以外でもよい)等を使用してテレビ画面等にコンテンツを再生表示して視聴するようにしてもよい。

【0193】(変形例3) また、上述した実施形態においては、ユーザPC106のユーザが予め予約した時間帯のみでライブ配信を行うことが許可されるようになっていたが、予約に基づいたライブ配信が行われている間に、ストリーミングサーバ102が予約データベース151を参照することにより、現在使用中のチャンネルの当該予約時間終了後の予約状況を確認し、空いているようであれば予約終了時間の所定時間前(例えば、10分前)にストリーミングサーバ102からユーザPC106に対して「〇〇時まで予約の延長が可能です」といった趣旨のメッセージ等を送信するようにしてもよい。そして、このメッセージ等を受信したユーザPC106のステータスウィンドウSW(図9(a)参照)に、このメッセージが表示されるようにすればよい。この際、ステータスウィンドウSW上に延長ボタンを表示するようにし、この延長ボタンがクリックされると、ユーザPC106のCPU120が延長を行う旨をストリーミングサーバ102に送信する。これを受信したストリーミングサーバ102が延長を許可する。このような延長サービスを行えば、配信者であるユーザPC106のユーザに対しては延長したいといった要望に応えることができる一方、サービス提供者としてもストリーミングサーバ102のチャンネルを効率よく活用できるといった効果が得られる。

【0194】(変形例4) また上述した実施形態においては、ライブキャスティングサーバ150のハードディスクに配信予約処理を実行するためのプログラムが予め

インストールされている場合や、ユーザPC106のハードディスク123に配信予約の際の各種処理やライブ配信の際の各種処理を実行するためのプログラムが予めインストールされている場合について述べたが、本発明はこれに限らず、コンテンツ提供プログラムの格納された例えはCD-ROM (Compact Disc-Read Only Memory)、DVD-ROM (Digital Versatile Disc-Read Only Memory) 等のパッケージメディアであるプログラム格納媒体を再生することにより上記各種プログラムをインストールしても良く、またプログラムが一時的もしくは永続的に格納される半導体メモリや光磁気ディスク等のプログラム格納媒体を再生することにより上記各種プログラムをインストールしても良い。

【0195】これらのプログラム格納媒体に上記各種プログラムを格納する手段としてはローカルエリアネットワーク、ディジタル衛星放送等の有線及び無線通信媒体を利用しても良く、ルータやモデム等の各種通信インターフェースを介在させて格納するようにしても良い。

【0196】(変形例5)さらに、上述した実施形態においては、ユーザPC106とライブキャスティングサーバ150との間で配信予約を行うためのネットワークとしてインターネット103を用いるようにした場合について述べたが、本発明はこれに限らず、有線又は無線で構築された他の種々のネットワークを用いても良い。

【0197】また、上述した実施形態では、ユーザPC106とストリーミングサーバ102とを接続するためにはサーバ接続専用ネットワーク108を設けるようになっていたが、これに限らず、インターネット103を用いて両者を接続するようにしてもよい。

【0198】(変形例6)さらに、上述した実施形態においては、ライブ配信の発信者端末として、ディジタルビデオカメラ129を内蔵したユーザPC106を用いるようになっていたが、通常のPCにディジタルビデオカメラをIEEE (Institute of Electrical and Electronics Engineers) 1394インターフェース等を介してケーブル接続したものや、ディジタルビデオカメラを無線接続したPCを用いるようにしてもよい。また、ディジタルカメラをケーブル等により接続した携帯電話機や、ディジタルカメラを内蔵した携帯電話機をユーザPC106に代えて用いるようにしてもよい。

【0199】以下、ディジタルカメラを内蔵した携帯電話機をユーザPC106に代えて使用する場合を例示して説明する。

【0200】図39において、200は全体として本発明を適用した携帯電話機MS3が接続されているネットワークシステムを示し、通信サービスの提供エリアの所望の大きさに分割したセル内にそれぞれ固定無線局である基地局CS1～CS4が設置されている。

【0201】これらの基地局CS1～CS4には、移動無線局である携帯情報端末MS1及びMS2やカメラ付

デジタル携帯電話機MS3及びMS4が例えばW-C DMA (Wideband-Code Division Multiple Access)と呼ばれる符号分割多元接続方式によって無線接続されるようになされており、2[GHz]の周波数帯域を使用して最大2[Mbps]のデータ転送速度で大容量データを高速にデータ通信し得るようになされている。

【0202】このように携帯情報端末MS1及びMS2やカメラ付デジタル携帯電話機MS3及びMS4は、W-C DMA方式によって大容量データを高速にデータ通信し得るようになされていることにより、音声通話だけでなく電子メールの送受信、簡易ホームページの閲覧、画像の送受信等の多種に及びデータ通信を実行し得るようになされている。

【0203】また基地局CS1～CS4は、有線回線を介して電話網104に接続されており、当該電話網104にはインターネット103や、図示しない多くの加入者有線端末、コンピュータネットワーク及び企業内ネットワーク等が接続されている。

【0204】電話網104には、インターネットサービスプロバイダのアクセスサーバASも接続されており、当該アクセスサーバASには当該インターネットサービスプロバイダが保有するコンテンツサーバTSが接続されている。

【0205】このコンテンツサーバTSは、加入者有線端末や携帯情報端末MS1、MS2及びカメラ付デジタル携帯電話機MS3、MS4からの要求に応じて例えば簡易ホームページ等のコンテンツをたとえばコンパクトHTML (Hyper Text Markup Language) 形式のファイルとして提供するようになされている。このコンパクトHTMLとは、HTMLのサブセットであり、限られたサイズの表示装置の中で反映可能なタグのみ残し他の部分を切り捨てたものである。例えばNTTドコモ社のサービスであるiMode (登録商標) ではiモード用HTMLを採用しており、これは携帯電話に必要な機能を絞り込み約30種のタグを使用している、テキストの文字属性や色は指定できず、画像も2階調のGIFファイルが推奨されるなどの限定条件がある。このようなコンパクトHTMLや移動通信用プロトコルのWAP (Wireless Application Protocol) にて使われる記述言語であるHDML (handheld Device Markup Language)、WML (Wireless Markup Language) 等を用いることで、表示領域や表示能力に制限のある携帯端末などで閲覧する簡易ホームページのファイルを作成することができる。

【0206】このネットワークシステム200では、インターネット103には、上記実施形態と同様のサーバ使用予約管理センタ101やストリーミングサーバ102が接続され、TCP/IP (Transmission Control Protocol/Internet Protocol) のプロトコルに従って加入者有線端末や携帯情報端末MS1、MS2及びカメラ付

付ディジタル携帯電話機MS3、MS4からサーバ使用予約管理センタ101やストリーミングサーバ102に対してアクセスし得るようになされている。なお、図示の例では、ストリーミングサーバ102を使用したコンテンツ配信を行う際には、上記実施形態と同様に、カメラ付ディジタル携帯電話機MS3、MS4からサーバ接続専用ネットワーク108を介してストリーミングサーバ102にコンテンツ送信を行うようにしているが、インターネット103経由でコンテンツ送信を行うようにしてもよい。

【0207】因みに携帯情報端末MS1、MS2及びカメラ付ディジタル携帯電話機、MS3、MS4は、図示しない基地局CS1～CS4までを2[Mbps]の簡易トランスポートプロトコルで通信し、当該基地局CS1～CS4からインターネットITNを介してWWWサーバWS1～WSnまでをTCP/IPプロトコルで通信するようになされている。

【0208】なお管理体制御装置MCUは、電話網104を介して加入者有線端末や携帯情報端末MS1、MS2及びカメラ付ディジタル携帯電話機MS3、MS4に接続されており、当該加入者有線端末や携帯情報端末MS1、MS2及びカメラ付ディジタル携帯電話機MS3、MS4に対する認証処理や課金処理等を行うようになされている。

【0209】次に、上記ユーザPC106に代えて使用者によるカメラ付ディジタル携帯電話機MS3の外観構成例について説明する。図40に示すようにカメラ付ディジタル携帯電話機MS3は、中央のヒンジ部211を境に表示部212と本体213とに分けられており、当該ヒンジ部211を介して折り畳み可能に形成されている。

【0210】表示部212には、上端左部に送受信用のアンテナ214が引出し及び収納可能な状態に取り付けられており、当該アンテナ214を介して基地局CS3との間で電波を送受信するようになされている。

【0211】また表示部212には、上端中央部にはほぼ180度の角度範囲で回動自在なカメラ部215が設けられており、当該カメラ部215のCCDカメラ216によって所望の撮像対象を撮像し得るようになされている。

【0212】ここで表示部212は、カメラ部215がユーザによってほぼ180度回動されて位置決めされた場合、図41に示すように当該カメラ部215の背面側中央に設けられたスピーカ217が正面側に位置することになり、これにより通常の音声通話状態に切り換わるようになされている。

【0213】さらに表示部212には、その正面に液晶ディスプレイ218設けられており、電波の受信状態、電池残量、電話帳として登録されている相手先名や電話番号及び発信履歴等の他、電子メールの内容、簡易ホー

ムページ、カメラ部215のCCDカメラ216で撮像した画像を表示し得るようになされている。

【0214】一方、本体213には、その表面「0」～「9」の数字キー、発呼キー、リダイヤルキー、終話及び電源キー、クリアキー及び電子メールキー等の操作キー219が設けられており、当該操作キー219を用いて各種指示を入力し得るようになされている。

【0215】また本体213には、操作キー219の下部にメモボタン220やマイクロフォン221が設けられており、当該メモボタン220によって通話中の間の音声を録音し得ると共に、マイクロフォン221によって通話時のユーザの音声を集音するようになされている。

【0216】さらに本体213には、操作キー219の上部に回動自在なジョグダイヤル222が当該本体213の表面から僅かに突出した状態で設け等られており、当該ジョグダイヤル222に対する回動操作に応じて液晶ディスプレイ218に表示されている電話帳リストや電子メールのスクロール動作、簡易ホームページの捲り動作及び画像の送り動作等の種々の動作を実行するようになされている。

【0217】例えば本体213は、ユーザによるジョグダイヤル222の回動操作に応じて液晶ディスプレイ218に表示された電話帳リストの複数の電話番号の中から所望の電話番号が選択され、当該ジョグダイヤル222が本体213の内部方向に押圧されると、選択された電話番号を確定して当該電話番号に対して自動的に発呼処理を行うようになされている。

【0218】なお本体213は、背面側に図示しないバッテリパックが挿着されており、終話及び電源キーがオン状態になると、当該バッテリパックから各回路部に対して電力が供給されて動作可能な状態に起動する。

【0219】ところで本体213には、当該本体213の左側面上部に抜差自在なメモリスティック（ソニー株式会社の商標）223を挿着するためのメモリスティックスロット224が設けられており、メモボタン220が押下されるとメモリスティック223に通話中の相手の音声を記録したり、ユーザの操作に応じて電子メール、簡易ホームページ、CCDカメラ216で撮像した画像を記録し得るようになされている。

【0220】ここでメモリスティック223は、本願出願人であるソニー株式会社によって開発されたフラッシュメモリカードの一種である。このメモリスティック223は、縦21.5×横50×厚さ2.8[mm]の小型薄型形状のプラスチックケース内に電気的に書換えや消去が可能な不揮発性メモリであるEEPROM（Electrically Erasable and Programmable Read Only Memory）の一種であるフラッシュメモリ素子を格納したものであり、10ピン端子を介して画像や音声、音楽等の各種データの書き込み及び読み出しが可能となっている。

【0221】またメモリスティック223は、大容量化等による内蔵フラッシュメモリの仕様変更に対しても、使用する機器で互換性を確保することができる独自のシリアルプロトコルを採用し、最大書込速度1.5[MB/S]、最大読出速度2.45[MB/S]の高速性能を実現していると共に、誤消去防止スイッチを設けて高い信頼性を確保している。

【0222】従ってカメラ付ディジタル携帯電話機MS3は、このようなメモリスティック223を挿着可能に構成されているために、当該メモリスティック223を介して他の電子機器との間でデータの共有化を図ることができるようになされている。

【0223】図42に示すように、カメラ付ディジタル携帯電話機MS3は、表示部212及び本体213の各部を統括的に制御するようになされた主制御部250に対して、電源回路部251、操作入力制御部252、画像エンコーダ253、カメラインターフェース部254、LCD(Liquid Crystal Display)制御部255、画像デコーダ256、多重分離部257、記録再生部262、変復調回路部258及び音声コーデック259がメインバス260を介して互いに接続されると共に、画像エンコーダ253、画像デコーダ256、多重分離部257、変復調回路部258及び音声コーデック259が同期バス261を介して互いに接続されて構成されている。

【0224】電源回路部251は、ユーザの操作により終話及び電源キーがオン状態にされると、バッテリバックから各部に対して電力を供給することによりカメラ付ディジタル携帯電話機MS3を動作可能な状態に起動する。

【0225】カメラ付ディジタル携帯電話機MS3は、CPU、ROM及びRAM等である主制御部250の制御に基づいて、音声通話モード時にマイクロフォン221で集音した音声信号を音声コーデック259によってディジタル音声データに変換し、これを変復調回路部258でスペクトラム拡散処理し、送受信回路部262でディジタルアナログ変換処理及び周波数変換処理を施した後にアンテナ214を介して送信する。

【0226】またカメラ付ディジタル携帯電話機MS3は、音声通話モード時にアンテナ214で受信した受信信号を増幅して周波数変換処理及びアナログディジタル変換処理を施し、変復調回路部258でスペクトラム逆拡散処理し、音声コーデック259によってアナログ音声信号に変換した後、これをスピーカ217を介して出力する。

【0227】さらにカメラ付ディジタル携帯電話機MS3は、データ通信モード時に電子メールを送信する場合、操作キー219及びジョグダイヤル222の操作によって入力された電子メールのテキストデータを操作入力制御部252を介して主制御部250に送出する。

【0228】主制御部250は、テキストデータを変復調回路部258でスペクトラム拡散処理し、送受信回路部262でディジタルアナログ変換処理及び周波数変換処理を施した後にアンテナ214を介して基地局CS3(図39参照)へ送信する。

【0229】これに対してカメラ付ディジタル携帯電話機MS3は、データ通信モード時に電子メールを受信する場合、アンテナ214を介して基地局CS3から受信した受信信号を変復調回路部258でスペクトラム逆拡散処理して元のテキストデータを復元した後、LCD制御部255を介して液晶ディスプレイ218に電子メールとして表示する。

【0230】この後カメラ付ディジタル携帯電話機MS3は、ユーザの操作に応じて受信した電子メールを記録再生部262を介してメモリスティック223に記録することも可能である。

【0231】一方カメラ付ディジタル携帯電話機MS3は、データ通信モード時に画像データを送信する場合、CCDカメラ216で撮像された画像データをカメラインターフェース部254を介して画像エンコーダ253に供給する。

【0232】因みにカメラ付ディジタル携帯電話機MS3は、画像データを送信しない場合には、CCDカメラ216で撮像した画像データをカメラインターフェース部254及びLCD制御部255を介して液晶ディスプレイ218に直接表示することも可能である。

【0233】画像エンコーダ253は、CCDカメラ216から供給された画像データを例えばMPEG(Moving Picture Experts Group)2やMPEG4等の所定の符号化方式によって圧縮符号化することにより符号化画像データに変換し、これを多重分離部257に送出する。

【0234】このとき同時にカメラ付ディジタル携帯電話機MS3は、CCDカメラ216で撮像中にマイクロフォン221で集音した音声を音声コーデック259を介してディジタルの音声データとして多重分離部257に送出する。

【0235】多重分離部257は、画像エンコーダ253から供給された符号化画像データと音声コーデック259から供給された音声データとを所定の方式で多重化し、その結果得られる多重化データを変復調回路部258でスペクトラム拡散処理し、送受信回路部262でディジタルアナログ変換処理及び周波数変換処理を施した後にアンテナ214を介して送信する。

【0236】これに対してカメラ付ディジタル携帯電話機MS3は、データ通信モード時に例えば簡易ホームページ等にリンクされた動画像ファイルのデータを受信する場合、アンテナ214を介して基地局CS3から受信した受信信号を変復調回路部258でスペクトラム逆拡散処理し、その結果得られる多重化データを多重分離部

257に送出する。

【0237】多重分離部257は、多重化データを分離することにより符号化画像データと音声データとに分け、同期バス261を介して当該符号化画像データを画像デコーダ256に供給すると共に当該音声データを音声コードック259に供給する。

【0238】画像デコーダ256は、符号化画像データをMPEG2やMPEG4等の所定の符号化方式に対応した復号化方式でデコードすることにより再生動画像データを生成し、これをLCD制御部255を介して液晶ディスプレイ218に供給し、これにより、例えば、簡易ホームページにリンクされた動画像ファイルに含まれる動画データが表示される。

【0239】このとき同時に音声コードック259は、音声データをアナログ音声信号に変換した後、これをスピーカ217に供給し、これにより、例えば、簡易ホームページにリンクされた動画像ファイルに含まる音声データが再生される。

【0240】この場合も電子メールの場合と同様にカメラ付ディジタル携帯電話機MS3は、受信した簡易ホームページ等にリンクされたデータをユーザの操作により記録再生部262を介してメモリスティック223に記録することが可能である。

【0241】かかる構成に加えてカメラ付ディジタル携帯電話機MS3は、主制御部250のROMに上記実施形態と同様のアプリケーションプログラム等が格納されており、このアプリケーションプログラムに基づいて、予約管理センタ101のライブキャスティングサーバ150(図12参照)にアクセスし、ライブキャスティングサーバ150との間で上述したメンバー登録、リコンファームを含むライブ配信予約処理を行い得るようになされており、予約を行った場合には、予約設定情報ファイル(図28参照)を受信して自動的に暗号化して保存するようになっている。また、このカメラ付きディジタル携帯電話機MS3は、上記実施形態においてユーザPC106が行う予約に基づいたライブ配信処理と同様の処理を行い得るようになされている。したがって、ライブ配信時には、上記予約処理の際に保存した予約設定情報ファイルを自動的に読み出してストリーミングサーバ102との間で通信接続を確立し、CCDカメラ216で撮影したコンテンツをストリーミングサーバ102に送信してコンテンツのライブ配信を行い得るようになされている。

【0242】

【発明の効果】以上説明したように、本発明によれば、コンテンツのライブ配信を行うための予約をする際に、配信者側でコンテンツの配信先の定員数または使用料金を考慮した予約を行うことが可能となる。

【図面の簡単な説明】

【図1】 本発明の一実施形態に係るコンテンツ配信の

予約方法が適用されるコンテンツ供給システムの概略全体構成を示すブロック図である。

【図2】 前記コンテンツ供給システムによりパーソナルキャスティングサービスを受けるユーザPCの構成を示すブロック図である。

【図3】 前記ユーザPCの外観構成例を示す斜視図である。

【図4】 前記ユーザPCによるアプリケーションプログラム起動時の初期画面を示す図である。

【図5】 撮影モード時の前記ユーザPCの表示部の表示画面を示す図である。

【図6】 アップロードモードにおける前記ユーザPCの前記表示部の表示画面を示す図である。

【図7】 Web確認モードにおける前記ユーザPCの前記表示部の表示画面を示す図である。

【図8】 ライブ予約モードにおける前記ユーザPCの前記表示部の表示画面を示す図である。

【図9】 ライブ配信モードにおける前記ユーザPCの前記表示部の表示画面を示す図である。

【図10】 前記ライブ配信モードにおけるエフェクト表示欄を示す図である。

【図11】 前記ライブ配信モードにおけるエフェクト設定処理時の表示画面を示す図である。

【図12】 前記コンテンツ供給システムのサーバ使用予約管理装置の構成を示すブロック図である。

【図13】 前記サーバ使用予約管理装置のライブキャスティングサーバのハードディスクに格納されたWebページのトップページを示す図である。

【図14】 前記ライブキャスティングサーバのハードディスクに格納されたWebページを示す図である。

【図15】 前記ライブキャスティングサーバのハードディスクに格納されたWebページを示す図である。

【図16】 前記ライブキャスティングサーバのハードディスクに格納されたWebページを示す図である。

【図17】 前記ライブキャスティングサーバのハードディスクに格納されたWebページを示す図である。

【図18】 前記サーバ使用予約管理装置の予約データベースの登録内容を示す図である。

【図19】 メンバー登録時における前記ユーザPCおよび前記ライブキャスティングサーバの処理動作を示すシーケンスフローチャートである。

【図20】 前記メンバー登録時の前記ユーザPCの前記表示部の表示画面を示す図である。

【図21】 配信予約時における前記ユーザPCおよび前記ライブキャスティングサーバの処理動作を示すシーケンスフローチャートである。

【図22】 前記配信予約時の前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図23】 前記配信予約時の前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図24】 前記配信予約時の前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図25】 前記配信予約におけるリコンファーム処理時の前記ユーザPCおよび前記ライブキャスティングサーバの処理動作を示すシーケンスフローチャートである。

【図26】 前記リコンファーム処理時における前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図27】 前記リコンファーム処理時における前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図28】 前記リコンファーム処理時に前記ライブキャスティングサーバにより作成されて前記ユーザPCに送信される予約設定情報ファイルを示す図である。

【図29】 前記リコンファーム処理時における前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図30】 前記リコンファーム処理時に指定された電子メールアドレス宛に送信される電子メールの内容を示す図である。

【図31】 予約変更を行う場合に前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図32】 予約変更を行う場合に前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図33】 予約変更を行う場合に前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図34】 予約取り消しを行う場合に前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図35】 予約取り消しを行う場合に前記ユーザPC

の前記表示部に表示される表示画面を示す図である。

【図36】 予約確認を行う場合に前記ユーザPCの前記表示部に表示される表示画面を示す図である。

【図37】 ライブ配信時における前記コンテンツ供給システムの処理動作を示すシーケンスフローチャートである。

【図38】 前記ライブ配信時において、コンテンツ供給を受けるクライアントPCの表示画面を示す図である。

【図39】 前記実施形態の变形例にかかるネットワークシステムの全体構成を示す略線図である。

【図40】 カメラ付きディジタル携帯電話機の外観構成を示す略線的斜視図である。

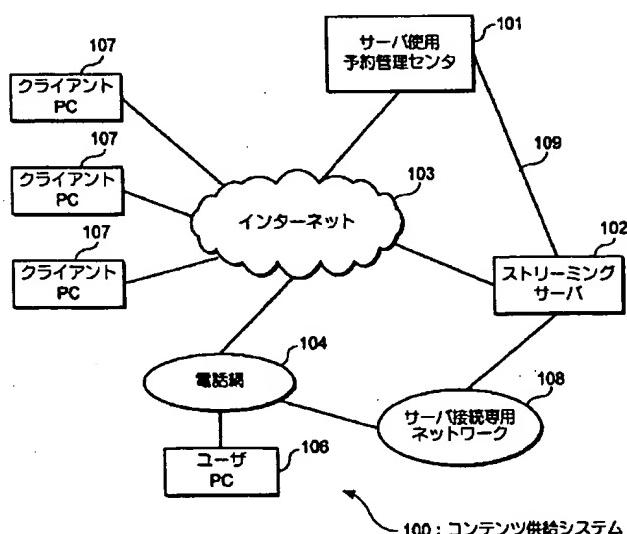
【図41】 カメラ部を回動したときの前記カメラ付きディジタル携帯電話機の表示部を示す略線的斜視図である。

【図42】 前記カメラ付きディジタル携帯電話機の回路構成を示すブロック図である。

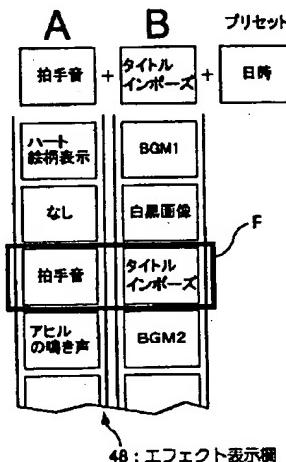
【符号の説明】

100……コンテンツ供給システム、101……サーバ使用予約管理装置、102……ストリーミングサーバ、103……インターネット、104……電話網、106……ユーザPC、107……クライアントPC、108……サーバ接続専用ネットワーク、150……ライブキャスティングサーバ、151……予約データベース、152……ユーザデータベース、153……NTPサーバ、154……ネットワークインターフェース、155……データベースサーバ、200……ネットワークシステム、MS3, MS4……カメラ付きディジタル携帯電話機

【図1】

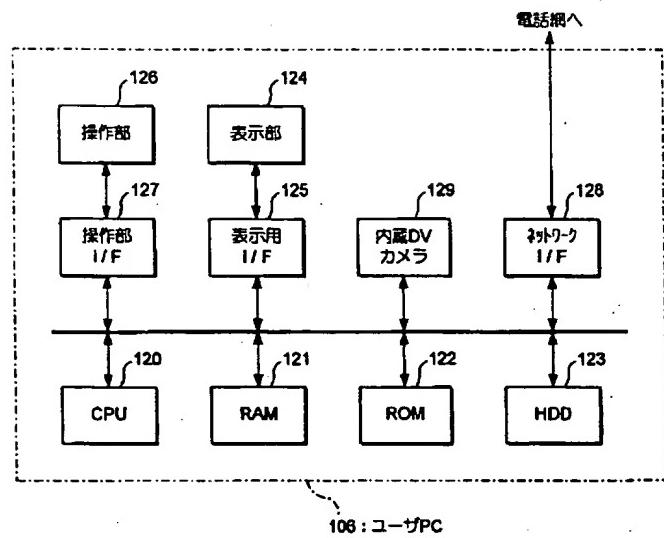


【図10】

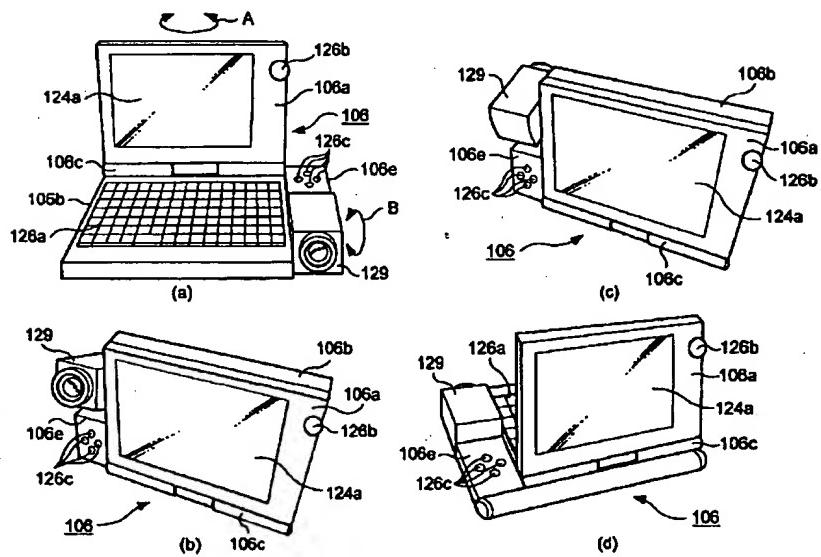


48: エフェクト表示欄

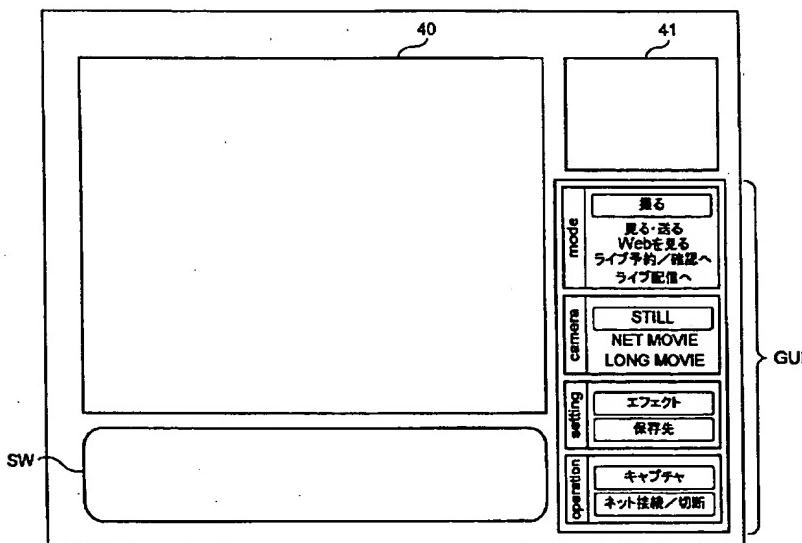
【図2】



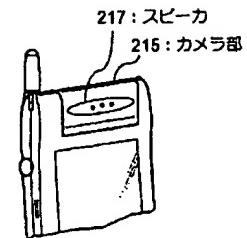
【図3】



〔図4〕

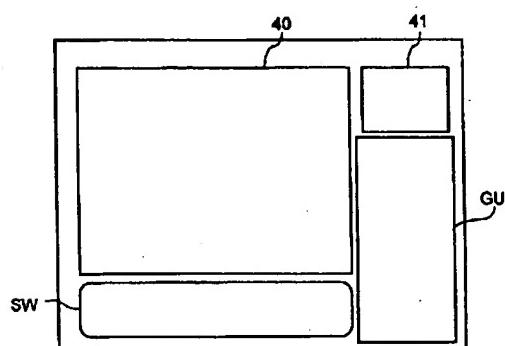


【図41】



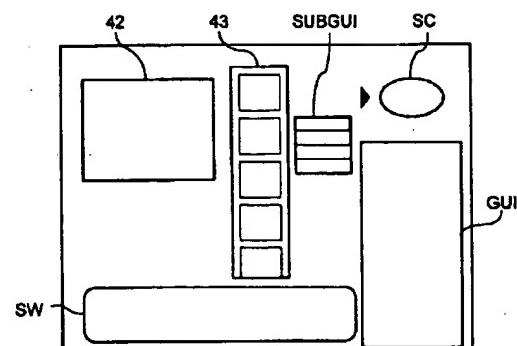
カメラ部を回動したときの表示部

〔図5〕

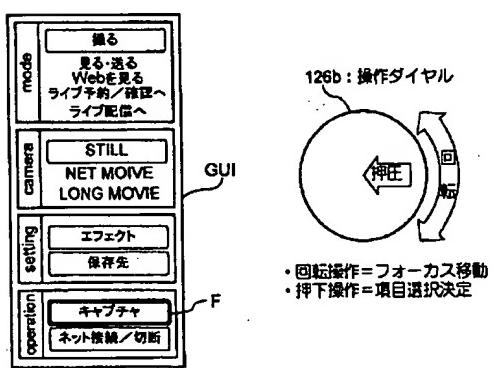


(a) 撮影モードの表示画面

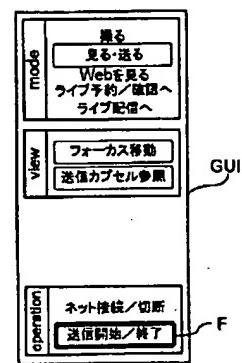
【图6】



(a) アップロードモードの表示画面

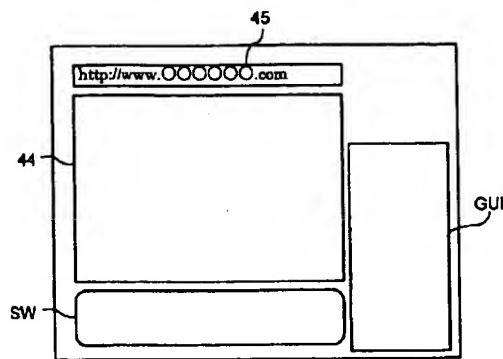


(b) 撮影モードのGUIと操作ダイヤルの操作内容との関係表示画面



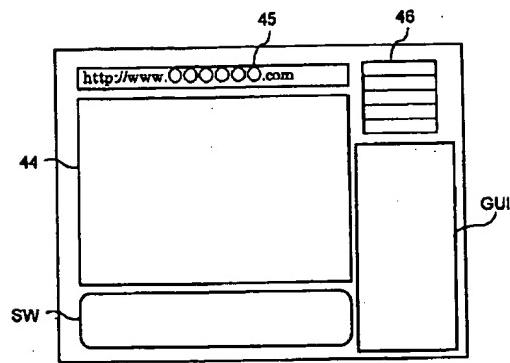
(b) アップロードモードのGUI (c) アップロードモードのSUBGUI

【図7】

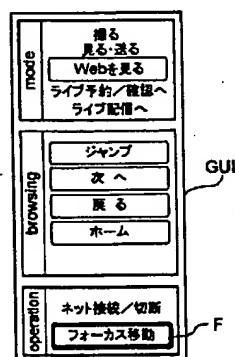


(a) Web確認モードの表示画面

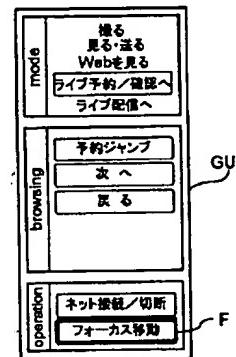
【図8】



(a) ライブ予約モードの表示画面

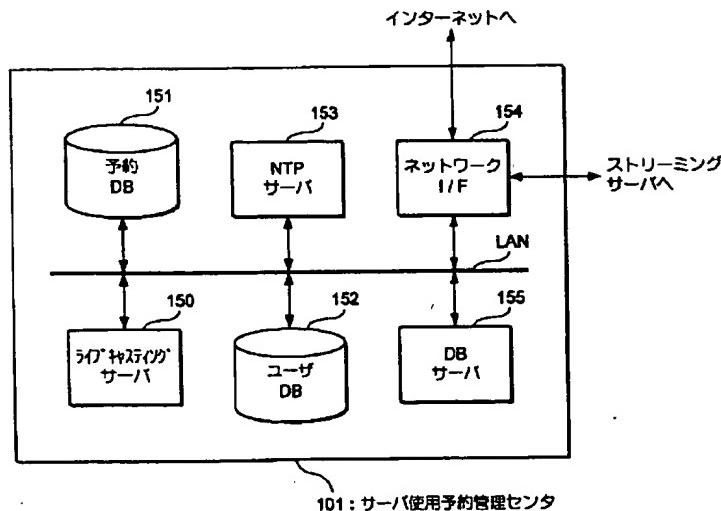


(b) Web確認モードのGUI



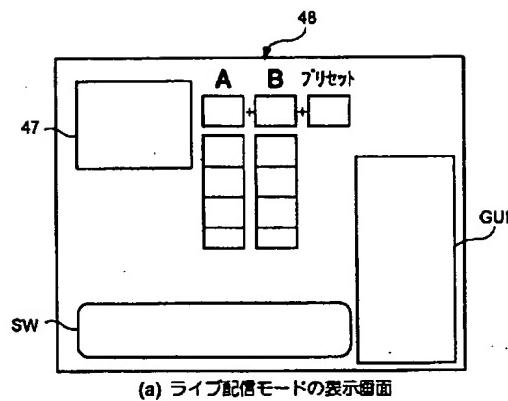
(b) ライブ予約モードのGUI

【図12】

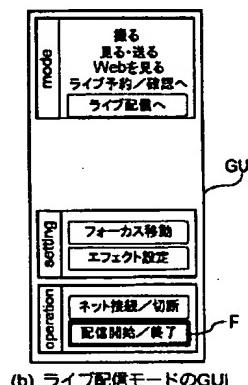


101: サーバ使用予約管理センタ

【図9】

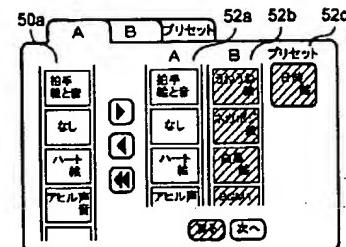


(a) ライブ配信モードの表示画面

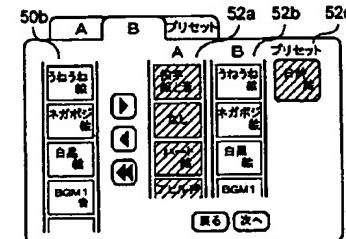


(b) ライブ配信モードのGUI

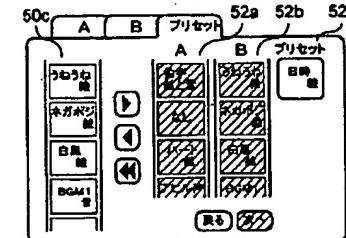
【図11】



(a) Aボタンエフェクト設定画面



(b) Bボタンエフェクト設定画面

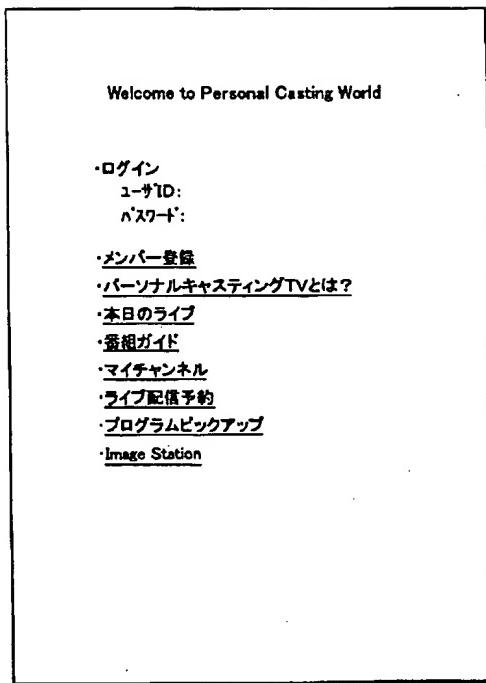


(c) プリセットエフェクト設定画面

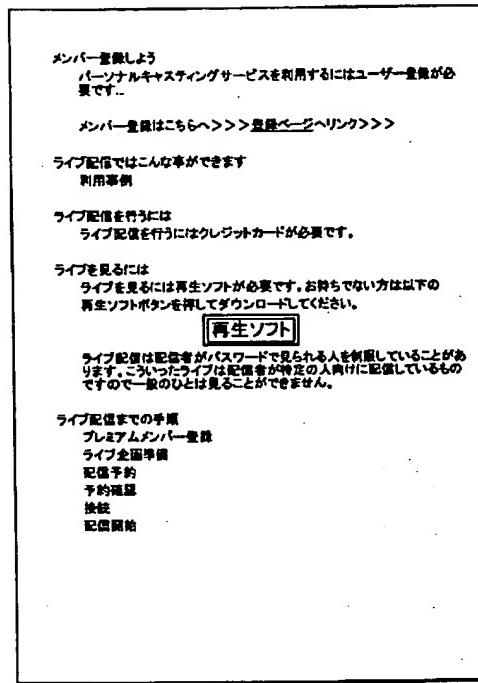
【図18】

予約内容	ユーザID	課金フラグ情報	予約ID
・○月○日 △時○分～○時△分 ・2ch ・64kbps	0000	可	XXXX
・△月△日 ○時△分～○時△分 ・4ch ・28.8kbps	x△00	不可	△△△△

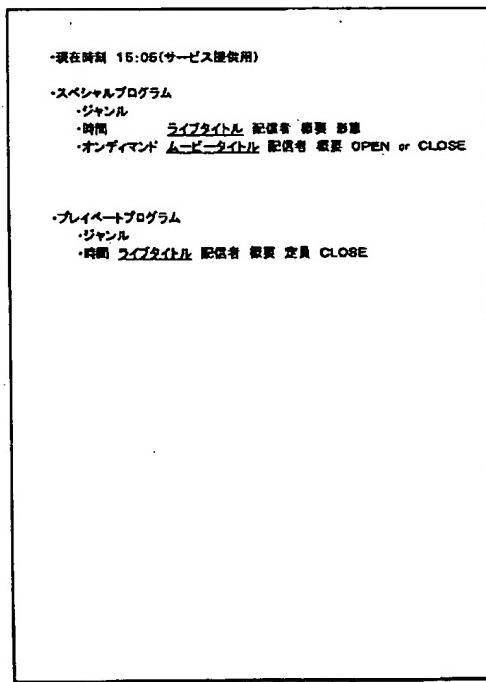
【図13】



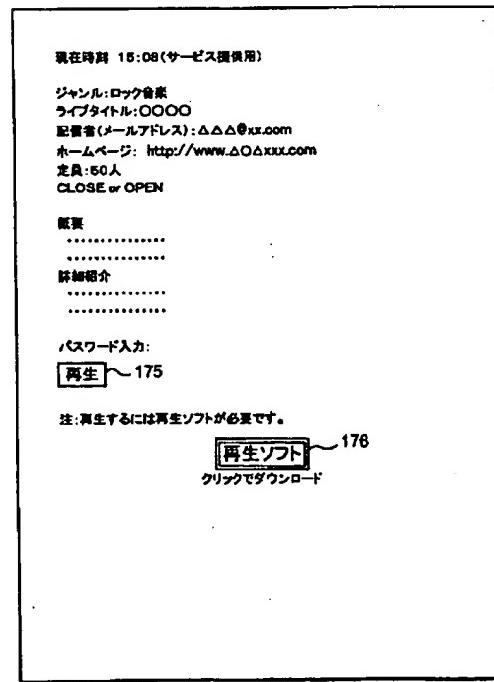
【図14】



【図15】



【図16】



【図17】

当面のプログラム
スペシャルプログラム
2000年7月5日 時間 ジャンル ライブタイトル 記憶者 権利 OPEN
時間 ジャンル ムービータイトル 記憶者 権利 OPEN

ライブチャンネル
2000年7月5日 ジャンル 時間 ライブタイトル 記憶者 権利 定員 PRIVATE

2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

【図20】

メンバー登録用入力画面

入力項目	入力欄
氏名（漢字） (ローマ字) 希望ユーザID パスワード 電子メールアドレス メールアドレス公開しますか	△○ 太郎 OO TAROU OOOO ***** △△△@OOO.com YES

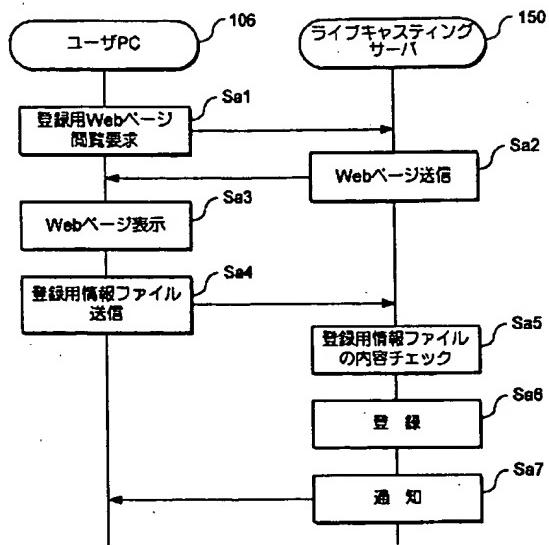
プレミアムメンバーアイテムをされる方は、チェックボックスを
チェックして下記の入力項目を入力して下さい。

プレミアムメンバ登録

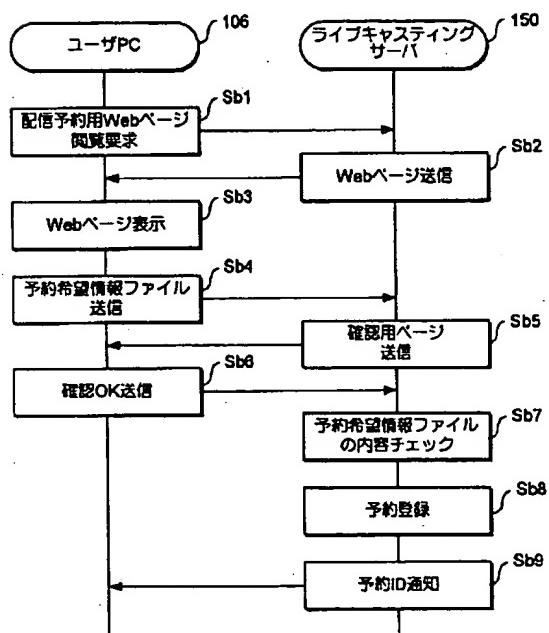
入力項目	入力欄
住所 電話番号 クレジットカード登録 クレジットカード有効期限 携帯電話番号 ファクシミリ番号	OO市OO区OO3-5-5 03-1234-5670 1234-5678-9102 2003年5月 03-1000-2000 03-1234-5671

キャンセル 212 登録 213

【図19】



【図21】



【図22】

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日	月	火	水	木	金	土	日
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	

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	10:00	11:00	12:00	13:00	14:00	15:00	16:00
1	5	28.8	1000円	空	空	空	空
2	10	24.8	2000円	空	空	空	空
3	15	64	3000円	空	空	空	空
4	50	64	10000円	空	空	空	空
5	100	64	15000円	空	空	空	空
6	150	64	20000円	空	空	空	空
7	5000	64	50000円	空	空	空	空

222

- ・チャンネル: チャンネル1(定員5名)
- ・予約日時: 7月5日 16:00-17:00
- ・公開レベル: Public Password() Secret()
- ・タイトル: ××××ライブ
- ・ジャンル: 音楽
- ・電子メール公開: する しない
- ・WEB公開: する(URL)しない
- ・パスワード: * * / * * / * *
- ・友達リスト: emailアドレス(△△△@○○○.com)(△△△@××.me.jp)(××@○○.com)
- ・概要: 20文字以内
- ・詳細: 200文字以内

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予約 キャンセル

【図23】

- ・ユーザID: OOOO
- ・チャンネル: チャンネル1(定員5名)
- ・予約日時: 7月5日 16:00-17:00
- ・公開レベル: Public Password(×××××) Secret(×××××)
- ・タイトル: ××××ライブ
- ・ジャンル: 音楽
- ・電子メール公開: する しない
- ・WEB公開: する(URL)しない
- ・パスワード: * * / * * / * *
- ・友達リスト: emailアドレス(△△△@○○○.com)(△△△@××.me.jp)(××@○○.com)
- ・概要: 20文字以内
- ・詳細: 200文字以内

利用料金: xxxx円
この料金以外にアクセスポートまでの電話代が別途通信事業者より請求されます。

△△△@○○○.com
上記メールアドレスが正しいかご確認ください。
上記メールアドレスに予約IDをお送りします。
予約IDを取得しましたら、本書の6時間前までにマイチャンネルにおいてリコンファームを行ってください。
リコンファームがない場合はキャンセル扱いとなります。

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了解 キャンセル

【図24】

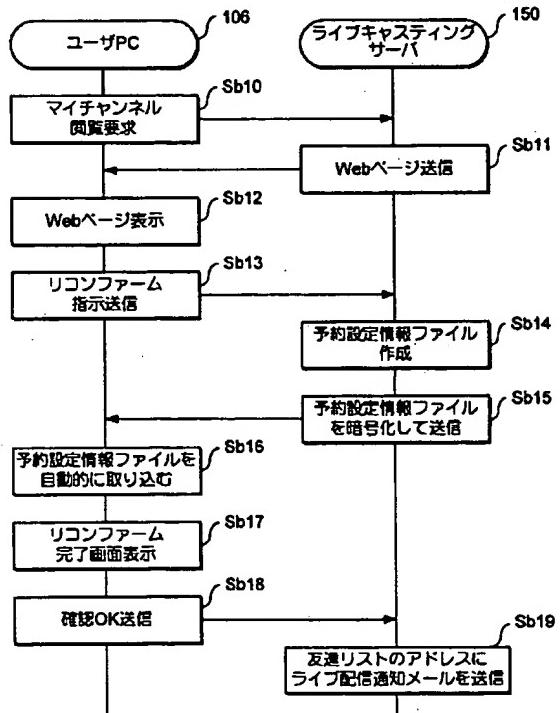
予約ありがとうございました。

メールを確認の上、対応PCを利用してMyチャンネルページにてリコンファームを行ってください。

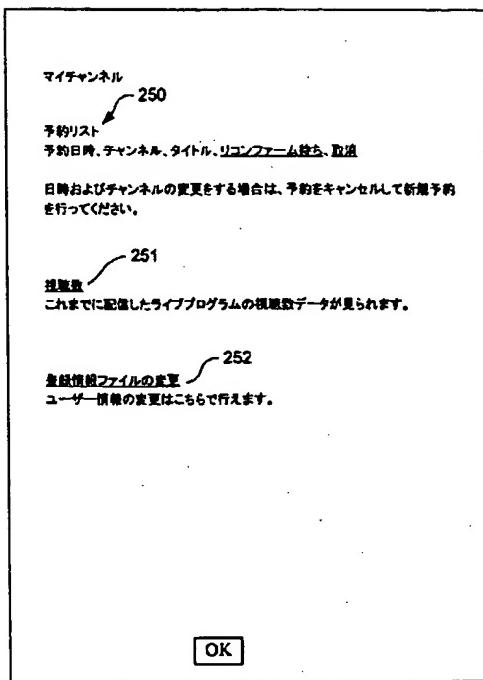
OK

245

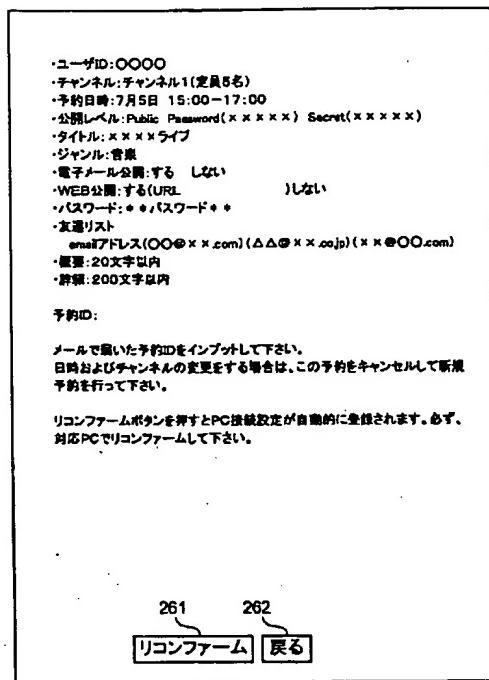
【図25】



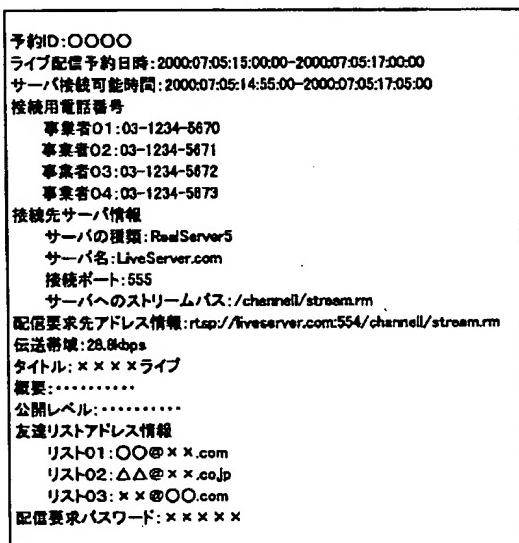
【図26】



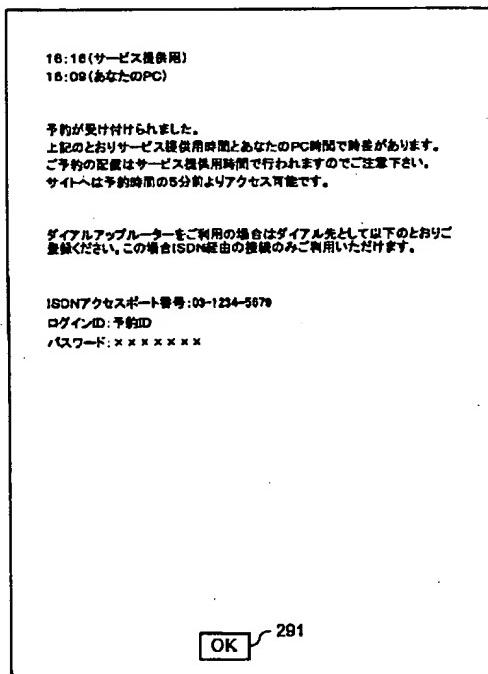
【図27】



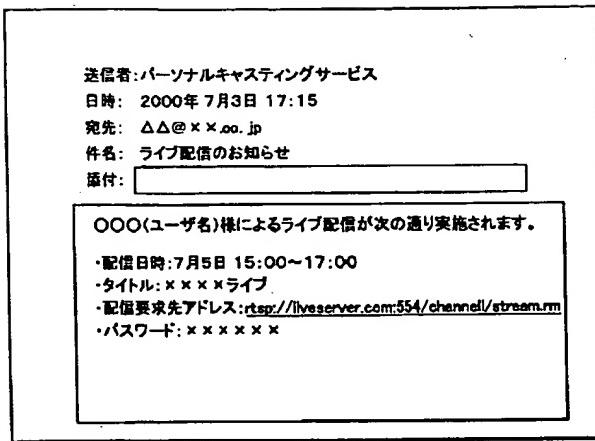
【図28】



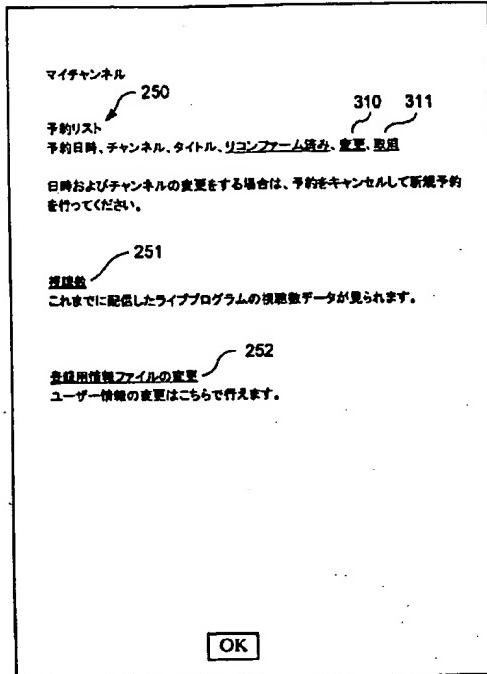
【図29】



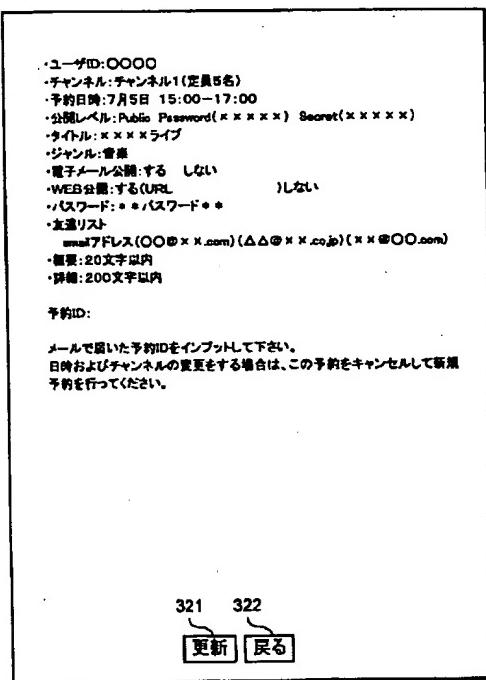
【図30】



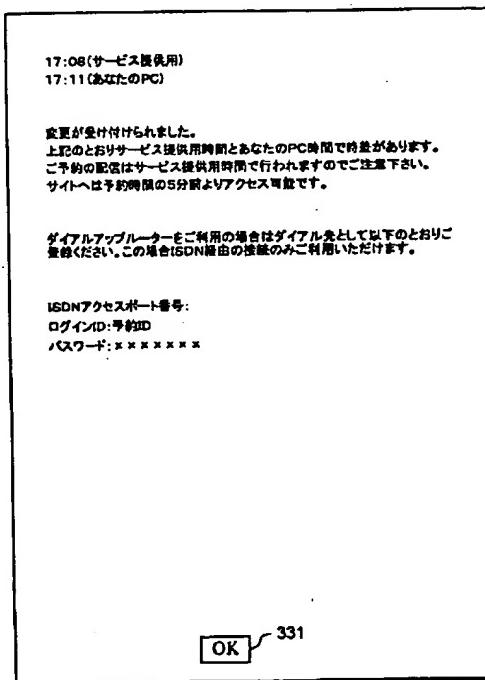
【図31】



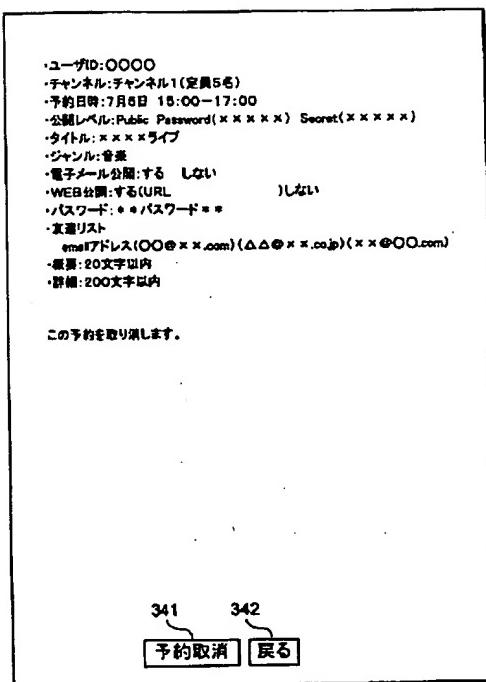
【図32】



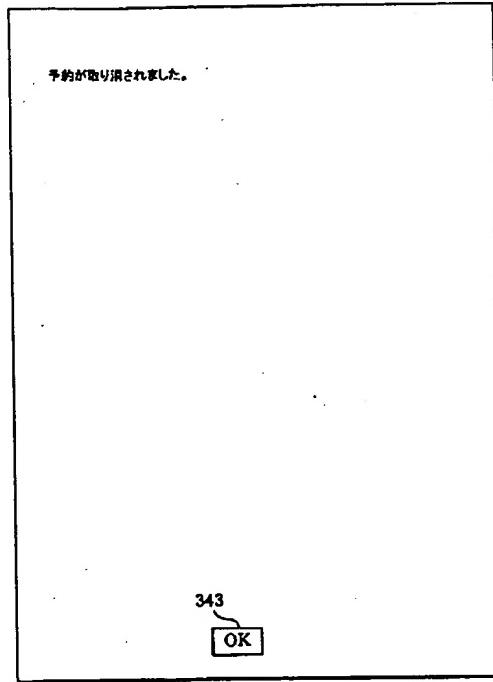
【図33】



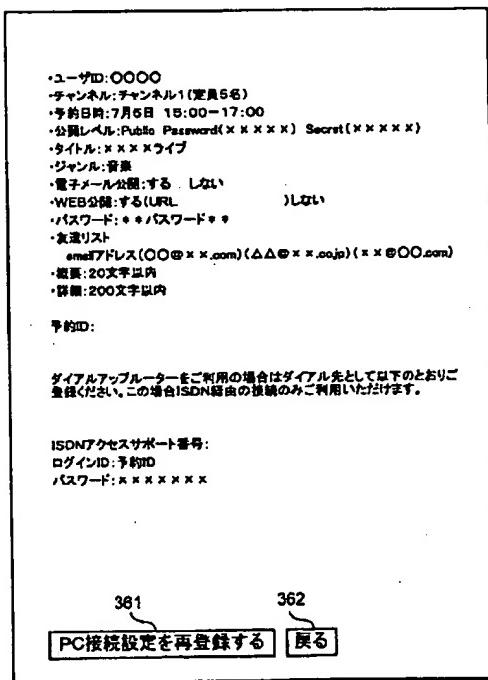
【図34】



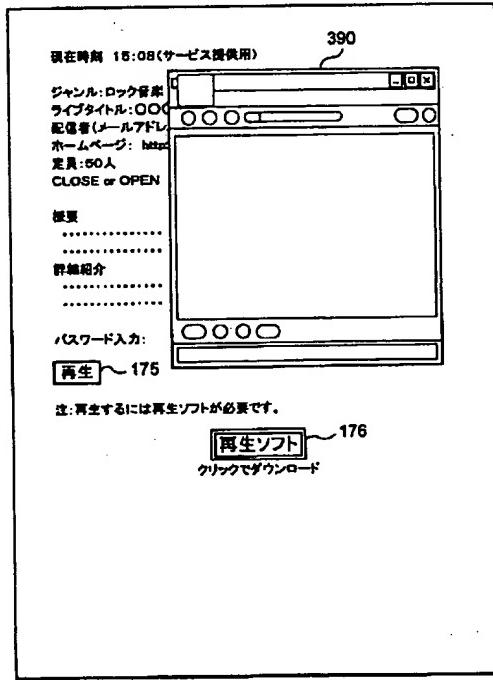
【図35】



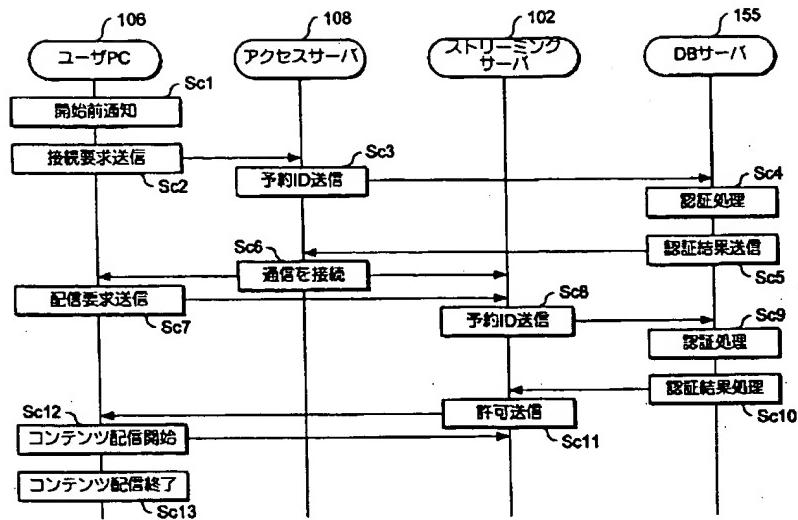
【図36】



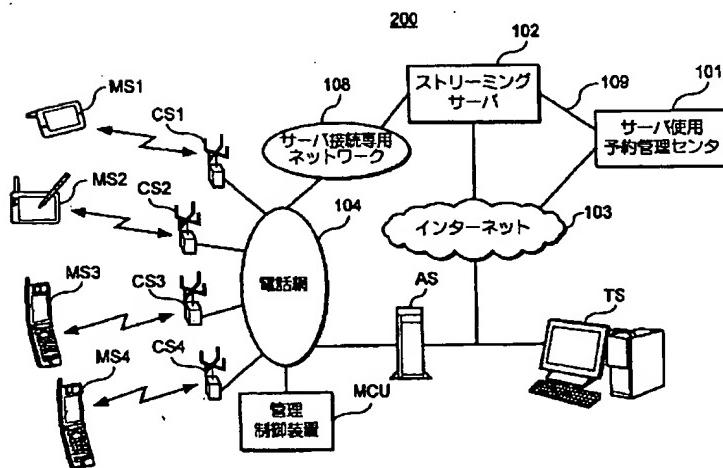
【図38】



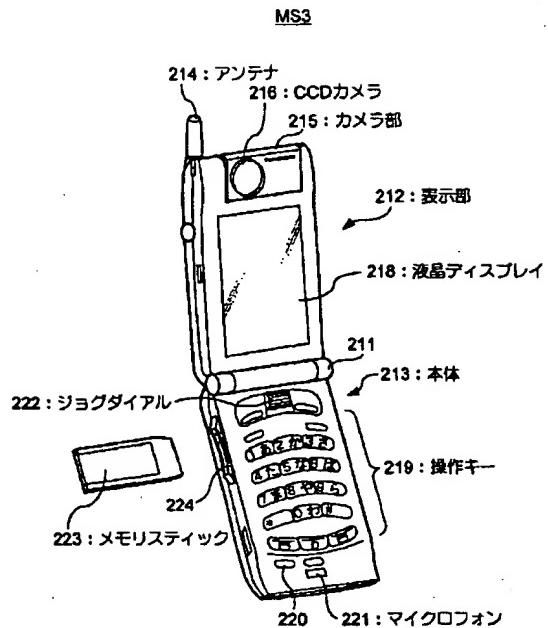
【図37】



【図39】

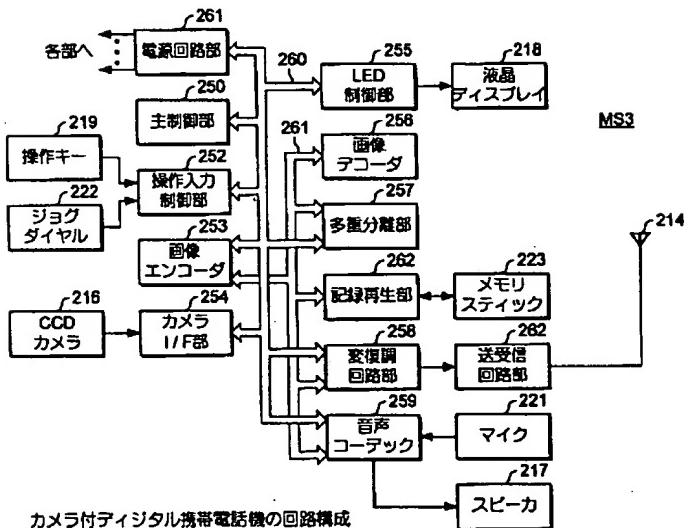


【図40】



カメラ付きデジタル携帯電話機の外観構成

【図42】



カメラ付デジタル携帯電話機の回路構成

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BC18 BC23 BC25 BD02 BD05
BD08 BD09